THE AMERICAN ENERGY INITIATIVE, PART 24: DISCUSSION DRAFTS OF H.R. ———, THE NO MORE SOLYNDRAS ACT, AND H.R. ———, THE SMART ENERGY ACT

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

AND THE

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

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C O N T E N T S

SUBMITTED MATERIAL

[1] Internet link to the report is available on page 195.

THE AMERICAN ENERGY INITIATIVE, PART 24: DISCUSSION DRAFTS OF H.R. ————, THE NO MORE SOLYNDRAS ACT, AND H.R. ————, THE SMART ENERGY ACT

THURSDAY, JULY 12, 2012

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND POWER,
JOINT WITH THE
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittees met, pursuant to call, at 9:23 a.m., in room 2123, Rayburn House Office Building, Hon. Cliff Stearns (chairman of the Subcommittee on Oversight and Investigations) presiding.

Members present: Representatives Whitfield, Stearns, Barton, Shimkus, Walden, Terry, Murphy, Burgess, Blackburn, Bilbray, Bass, Gingrey, Scalise, McMorris Rodgers, Olson, Gardner, Pompeo, Griffith, Upton (ex officio), Dingell, Markey, Green, DeGette, Capps, Schakowsky, Christensen, Sarbanes, and Waxman (ex officio).

Staff present: Anita Bradley, Senior Policy Advisor to Chairman Emeritus; Maryam Brown, Chief Counsel, Energy and Power; Allison Busbee, Legislative Clerk; Karen Christian, Deputy Chief Counsel, Oversight; Patrick Currier, Counsel, Energy and Power; Todd Harrison, Chief Counsel, Oversight/Investigations; Cory Hicks, Policy Coordinator, Energy and Power; Ben Lieberman, Counsel, Energy and Power; Chris Sarley, Policy Coordinator, Environment and Economy; Jeff Baran, Democratic Senior Counsel; Phil Barnett, Democratic Staff Director; Brian Cohen, Democratic Investigations Staff Director and Senior Policy Advisor; Greg Dotson, Democratic Energy and Environment Staff Director; Caitlin Haberman, Democratic Policy Analyst; and Matt Siegler, Democratic Counsel.

OPENING STATEMENT OF HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. STEARNS. Good morning, everybody, and welcome to the joint convening of the Energy and Power Subcommittee and the Oversight and Investigations Subcommittee. And I join my distinguished subcommittee chairman, Mr. Whitfield from Kentucky, in convening this joint legislative hearing.

We have two bills before the subcommittee. I will be addressing my opening statements to the No More Solyndras Act and then re-

linquishing the chair for the first panel to my colleague, Mr. Whitfield. And I yield myself 4 minutes for my opening statement.

With Chairman Upton, I am a proud sponsor of the No More Solyndras Act. The act is a product of an 18-month investigation by the Subcommittee on Oversight and Investigations. Today marks a turning point in this investigation. We gather to consider a bill that will fix the problems we uncovered during our investigation.

The Solyndra investigation and the introduction of the No More Solyndras Act is a great example of how congressional oversight should work: ask tough questions, collect all the facts, identify the problems, and offer legislative solutions.

Solyndra was the first recipient of a DOE loan guarantee under Title XVII of the Energy Policy Act and a poster child for President Obama's stimulus-driven green energy program. It was also the first stimulus-backed recipient of a DOE loan guarantee and the first to file for bankruptcy just 2 years after the loan closed and 6 months after DOE restructured the loan and subordinated its interest to Solyndra's private investors, all but ensuring taxpayers won't see a dime.

Three of the first five companies which received loan guarantees issued by the Department of Energy Loan Guarantee Program have now filed for bankruptcy, and hundreds of millions of taxpayer dollars will never be recovered.

The reason the committee initiated the Solyndra loan guarantee investigation are simple. The Democrat majority in 2009 and 2010 conducted zero oversight of DOE's loan guarantee program, even after it received a massive injection of funding from the stimulus. Just 1 year after receiving the first loan guarantee, trumpeted by DOE and the White House, Solyndra closed its manufacturing facilities and laid off hundreds of workers.

On behalf of American taxpayers, we have a duty to figure out what went wrong with the Solyndra loan guarantee and whether the program was properly managed. The subcommittee's investigation has been thorough and methodical. The committee requested, received, and reviewed documents from every executive branch agency connected to Solyndra and interviewed more than a dozen administration officials who played a key role in the loan guarantee.

Some members of the minority have contended that the investigation of Solyndra only shows that the loan guarantee was risky. This investigation has shown far more than that.

For example, the investigation has shown that several red flags were raised in 2009 by DOE and OMB staff about the company's financial condition and the market for Solyndra's products, but the administration ignored these warnings. DOE failed to consult with the Treasury Department, as required by the Energy Policy Act, prior to issuing a conditional commitment to Solyndra.

The administration's desire to highlight the stimulus impacted the quality of OMB's review and resulted in DOE rushing the loan guarantee out the door.

DOE failed to adequately monitor the loan guarantee, blindly writing checks to Solyndra as the company hemorrhaged cash throughout 2010. DOE restructured the loan guarantee in early

2011 and then, in violation of the Energy Policy Act of 2005, offered to subordinate its repayment position to Solyndra's private investors in the event of a liquidation.

OMB staff raised serious questions about the legality of the restructuring and whether it would improve the government's recoveries after immediate liquidation. Treasury played no role in reviewing the restructuring but advised DOE to consult with the Department of Justice about the subordination which DOE refused to do. And right up to the bankruptcy filing, the administration was willing to take extraordinary measures to keep Solyndra afloat for political reasons and ensure that the first loan guarantee was not a failure.

With Chairman Upton and other members of the O&I committee, we are sponsoring the No More Solyndras Act to make sure—to make sure, my colleagues—that these mistakes and misguided decisions never happen again.

And I give the balance of my time to the chairman, Mr. Whitfield. Six minutes to Mr. Whitfield.

[The prepared statement of Mr. Stearns follows:]

Opening Statement of the Honorable Cliff Stearns
Subcommittee on Energy and Power and
Subcommittee on Oversight and Investigations
Joint Legislative Hearing
July 12, 2012
(As Prepared for Delivery)

I join Chairman Whitfield in convening this joint legislative hearing today. Two bills are before the subcommittee, but I will address my opening statement to the No More Solyndras Act.

With Chairman Upton, I am a proud sponsor of the No More Solyndras Act. The No More Solyndras Act is the product of an 18-month investigation by the Subcommittee on Oversight and Investigations. Today marks a turning point in the investigation. We gather to consider a bill that will fix the problems we uncovered during our investigation. The Solyndra investigation, and the introduction of the No More Solyndras Act, is a great example of how Congressional oversight should work: ask tough questions, collect all the facts, identify problems, and offer legislative solutions.

Solyndra was the first recipient of a DOE loan guarantee under Title XVII of the Energy Policy Act and the poster child for President Obama's stimulus-driven green economy. It was also the first stimulus-backed recipient of a DOE loan guarantee to file for bankruptcy, just two years after the loan closed and six months after DOE restructured the loan and subordinated its interest to Solyndra's private investors—all but ensuring taxpayers won't see a dime. Three of the first five companies which received loan guarantees issued by the DOE Loan Guarantee Program have now filed for bankruptcy and hundreds of millions of taxpayer dollars will never be recovered.

The reasons the Committee initiated the Solyndra loan guarantee investigation are simple:

- The Democrat Majority in 2009 and 2010 conducted zero oversight of DOE's Loan Guarantee Program, even after it received a massive injection of funding from the stimulus,
- GAO audit reports had identified problems in the management of the DOE loan guarantee program and found that loan guarantee applicants had not been treated consistently;
- Just one year after receiving the first loan guarantee, trumpeted by DOE and the White House, Solyndra closed its manufacturing facility and laid off over 100 workers; and
- On behalf of American taxpayers, we had a duty to figure out what went wrong with the Solyndra loan guarantee and whether the program was being properly managed.

The subcommittee's investigation has been thorough and methodical. The committee requested, received, and reviewed documents from every executive branch agency connected to Solyndra and interviewed more than a dozen administration officials who played key roles in the loan guarantee. The committee has also reviewed documents produced by Solyndra's investors as well as DOE's independent consultant and legal advisor. The committee did not issue a single document request or subpoena or conduct an interview without first establishing the need to do so. Some members of the minority have contended that the investigation of Solyndra only showed that the loan guarantee was "risky." This investigation has shown far more than that. For example, the investigation has shown that:

- Several red flags were raised in 2009 by DOE and OMB staff about the company's financial condition and the market for Solyndra's products, but the administration ignored those warnings;
- DOE failed to consult with the Treasury Department, as required by the Energy Policy Act, prior to issuing a conditional commitment to Solyndra;
- The administration's desire to highlight the stimulus impacted the quality of OMB's review and resulted in DOE rushing the loan guarantee out the door;
- DOE failed to adequately monitor the loan guarantee, blindly writing checks to Solyndra as the company hemorrhaged cash throughout 2010;
- DOE restructured the loan guarantee in early 2011 and, in violation of the Energy Policy Act, offered to subordinate its repayment position to Solyndra's private investors in the event of a liquidation;
- OMB staff raised serious questions about the legality of the restructuring and whether it would improve the government's recoveries over an immediate liquidation;
- Treasury played no role in reviewing the restructuring, but advised DOE to consult with the Department of Justice about the subordination, which DOE refused to do; and
- Right up to the bankruptcy filing, the administration was willing to take extraordinary measures to keep Solyndra afloat for political reasons and ensure that the first loan guarantee was not a failure.

With Chairman Upton, and others members of this committee, I am sponsoring the No More Solyndras Act to make sure that these mistakes and misguided decisions never happen again.

###

OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY

Mr. WHITFIELD. Well, thank you, Mr. Stearns; and I am delighted that the Oversight and InvestigationS and the Energy and Power subcommittees are joining together today in this important hearing.

Everyone in America is very much aware of Solyndra, and Solyndra is troublesome for many reasons. First, the Federal Government chose to give a $.5 billion loan guarantee to a company so inept that it has gone bankrupt and left the American taxpayer holding the bag. Second, the fact that George Kaiser, a major investor in Solyndra, was also a major fundraiser for President Obama casts a questioning motivation of this loan.

And Solyndra is not the only company that received a loan guarantee that has gone bankrupt. You have got Beacon Power, you have Abound Solar, and there are others. All things considered, there is more than enough evidence to declare this program a failure. In fact, some people have said it really was a slush fund for the President.

It has been a failure for a lot of reasons: one, lack of transparency; two, costly for taxpayers at a time when we have a horrendous Federal debt and annual deficit.

And then the fact that in the case of bankruptcy the lawyers of Solyndra and the lawyers for the Department of Energy and the administration agreed to subordinate the taxpayers so that the private investors would get their money back first and the taxpayers last is really almost unbelievable.

And then what role did political connections play in the receiving of these loan guarantees? The Solyndra case certainly raises that issue.

And the loan guarantee program, as far as we know, has not developed many technological breakthroughs at all that would benefit the American people. Now, the administration talks a lot about, oh, we have created four million new green jobs. And yet Chairman Issa and others have had hearings and when you found out what is declared or what is defined as a green energy job is someone merely filling up a bus with fuel. That is considered a green job now.

So they didn't create new jobs. They simply changed the definition of a green job to mislead the American people. And that is precisely what has been done in this instance.

And so this legislation, the No More Solyndras Act, introduced by Chairman Stearns and Chairman Upton, it is vitally important to protect the American taxpayers that we pass, that we adopt this legislation.

And then another bill that we are going to be considering today is the Smart Energy Act, which was introduced by Mr. Bass of New Hampshire. And we all know that in order to conserve energy there are a lot of different ways to do it. One is through efficiency. And Mr. Bass' bill focuses on the government becoming more efficient in its use of energy, and so I want to applaud him for that legislation.

And I would also just point out that we have had major innovations throughout the history of our great country. You think about Alexander Graham Bell, Henry Ford, the Wright Brothers, Bill Gates, Steve Jobs, and others. And yet they were able to develop these new technological breakthroughs with private dollars and not government money.

So I am delighted we are moving in on this program.

At this time, I would like to yield time to the chairman, Mr. Fred Upton. The chairman is recognized.

[The prepared statement of Mr. Whitfield follows:]

Opening Statement of the Honorable Ed Whitfield
Subcommittee on Energy and Power and
Subcommittee on Oversight and Investigations
Joint Legislative Hearing
July 12, 2012
(As Prepared for Delivery)

This is the twenty-fourth day of our hearing on the American Energy Initiative. Today we will discuss two bills related to energy policy and the role of the federal government, the "No More Solyndras Act" and the "Smart Energy Act."

We are joined this morning by my good friend Cliff Stearns, chairman of the Oversight and Investigations Subcommittee. His subcommittee has done the American people a great service by investigating the Solyndra debacle and bringing it to light.

In my view, Solyndra is very troublesome for two reasons. First, the federal government chose to give a half-billion dollar loan guarantee to a company so inept that it has gone bankrupt and left the American taxpayer holding the bag, and second, the fact that George Kaiser, a major investor in Solyndra, was also a major political fundraiser for President Obama.

Solyndra is not the only instance of a loan guarantee recipient going bankrupt or having major administration supporters among its ownership interests. All things considered, there is more than enough reason to declare the program a failure and put an end to it, and that is what the No More Solyndras Act does.

Clearly the loan guarantee program has not delivered any technological breakthroughs that will benefit the American people. And this should not be surprising. In my view, such government handouts are evidence that Washington has lost sight of this nation's true entrepreneurial spirit.

Alexander Graham Bell, Henry Ford, the Wright Brothers, Bill Gates, Steve Jobs, and many others – America has a tradition of innovators that is the envy of the world, and they all accomplished great things without receiving a big check from the government.

Of course, one obstacle these entrepreneurs did not face was the excessive regulatory red tape of the kind this administration has been piling on since 2009. Eliminating this red tape and unleashing private sector innovation has been a key goal of my subcommittee, and I believe that removing these regulatory roadblocks would accomplish far more to facilitate energy breakthroughs than loan guarantees and other government handouts.

In my view, the federal government should get its own house in order rather than trying to interfere with the private sector. That is why we are also going to hear about the "Smart Energy Act," which among other things seeks increased energy efficiency in federal buildings.

I look forward to working with my colleagues in restoring the proper role for the government on energy policy.

###

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Thank you, both chairmen.

We all want to see innovations and breakthroughs in the energy sector, and I believe that the Federal Government can play a constructive role in encouraging them. But when a Department of Energy program is not delivering on the goal while costing hundreds of millions of dollars, we owe it to the American people to pull the plug. And, unfortunately, we have reached that stage with the loan guarantee program, which is one of the reasons why I coauthored the No More Solyndras Act.

Again, I want to thank Mr. Stearns, chairman of the Oversight and Investigations Subcommittee, for his very hard work and determination in getting to the bottom of the story. Let's not forget that when our team started the investigation both the administration and the company itself strongly denied that there were any problems whatsoever and right up until its bankruptcy last summer. Solyndra was advertised to the American people as a stimulus success story. Some even accused us of witch hunts and fishing expeditions.

I believe there is a legitimate role for the Federal Government in funding basic research, but with bankruptcies starting to pile up, our message to the American people has to be clear there will be no more Solyndras.

I ask unanimous consent my full statement be put into the record. I yield back the balance of my time to Mr. Barton.

[The prepared statement of Mr. Upton follows:]

Opening Statement of the Honorable Fred Upton
Subcommittee on Energy and Power and
Subcommittee on Oversight and Investigations
Joint Legislative Hearing
July 12, 2012
(As Prepared for Delivery)

We all want to see innovations and breakthroughs in the energy sector, and I believe that the federal government can play a constructive role in encouraging them. But when a Department of Energy program is not delivering on this goal while costing hundreds of millions of dollars, we owe it to the American people to pull the plug. Unfortunately, we have clearly reached this stage with the loan guarantee program and that is why I coauthored the No More Solyndras Act.

I would like to thank my friend and colleague Cliff Stearns of the Oversight and Investigations Subcommittee for his hard work and determination in getting to the bottom of the Solyndra story. Let us not forget that when our team started its investigation, both the administration and the company itself strongly denied that there were any problems whatsoever, and right up until its bankruptcy last summer, Solyndra was advertised to the American people as a stimulus success story. Some even accused us of witch hunts and fishing expeditions.

What the critics fail to comprehend is that this has never been about the merits of one energy source over another, but rather it is a debate focused on the incompetence and gross mismanagement of the Obama administration. Our aggressive oversight uncovered the problem, and now we must fix it.

The Solyndra loan guarantee was a massive failure every way you look at it. Just consider that the California solar panel maker's business model was so flawed that a $535 million dollar government handout was not enough to stop it from going bankrupt. Now taxpayers are on the hook for every penny of it. And to think, as Solyndra was running out of cash in 2010, the Obama Department of Energy was considering a second $469 million loan guarantee.

Of course, one bad loan does not make a trend, but other recipients of loan guarantees and other stimulus programs have joined Solyndra in bankruptcy, and the ultimate cost to taxpayers could reach into the billions. And even those recipients that remain solvent have achieved few worthwhile advances toward meeting the nation's energy needs.

Nor is there much evidence that the administration is learning from its past mistakes – in fact, its most recent loan guarantees look just as problematic as the first ones. The administration has amassed a very consistent track record as it tries to pick winners and losers – it almost always ends up backing losers.

I still believe there is a legitimate role for the federal government in funding basic research. But sadly, the Obama administration's gross mismanagement of the loan guarantee program necessitates the phase out of the Title XVII loan guarantee program. With the bankruptcies starting to pile up, our message to American taxpayers is clear: There will be No More Solyndras.

###

OPENING STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BARTON. Thank you, Mr. Chairman.

I think this is a positive step today, the fact that we have got a draft bill on No More Solyndras. It is a good bill. I think Mr. Bass' bill is also a good bill.

I would slightly diverge from the party line to say that I don't necessarily think we have to throw the baby out with the bath water. I do think we can reform the program, these green energy loan programs, without totally terminating them; and I hope in the process of this legislative hearing that we could discuss some ways to have a win/win on both sides. Keep the program but make them more open and transparent, put some penalties in for nonperformance, and, as the chairman and Mr. Stearns' draft bill does, make it absolutely clear that they have to work with the Treasury Department, and if they don't there will be penalties.

So, in any event, I want to commend Mr. Upton and Mr. Stearns for their draft bill and also Mr. Bass for his bill, and I look forward to a productive hearing today.

Mr. STEARNS. Thank you.

The gentlewoman from Texas is now recognized for 10 minutes, the ranking member, Ms. DeGette from Colorado.

Ms. DEGETTE. Thank you very much, Mr. Chairman. I yield myself 3 minutes.

Mr. STEARNS. So recognized.

OPENING STATEMENT OF HON. DIANA DEGETTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO

Ms. DEGETTE. Mr. Chairman, since I have joined this committee I have learned a very simple lesson. Good oversight results in good legislation. And, in contrast, biased and partisan oversight results in biased and partisan legislation. And the No More Solyndras Act, the legislation we are considering today, proves that lesson.

Let me be clear. The loss of taxpayer dollars in the Solyndra bankruptcy is a serious problem. We should have conducted a full and fair investigation so we could find out what happened and make sure it doesn't happen again. Instead, the DOE and Solyndra oversight have been designed to make cheap political points in an election year, instead of following the evidence where it leads.

Unfortunately, Mr. Chairman, I have to respectfully disagree with your characterization that this committee has conducted a thorough investigation. Despite our requests, there were no hearings to understand what U.S. policies are necessary to ensure that U.S. manufacturers can compete in the global clean energy market. There has been no testimony from the largest private equity investors in Solyndra to understand why the company attracted over a billion dollars in private capital.

We have refused to investigate the DOE loan guarantee program's loans to nuclear projects, and we have refused to invite DOE witnesses to discuss the legal and financial rationale behind the subordination of the Solyndra loan guarantee.

The oversight that the minority asked for in these requests would have provided the proper factual background for legislative

action to actually improve the DOE loan program. Instead, the majority has conducted a political investigation ignoring the benefits of the DOE program, making a series of inflammatory and misleading statements, blocking the release of exculpatory evidence, and abusing witnesses who invoke their fifth amendment privileges.

Given the inadequacies of the committee oversight, it is no surprise to me that this legislation is also problematic. It is a political statement rather than a serious policy proposal. It begins with six pages of findings, including the unsupported statement that the review of the Solyndra loan application was, quote, "driven by politics and ideology," end quote.

Mr. Chairman, this statement is not supported by our committee's oversight work. In fact, our investigation revealed the opposite to be true. The key decisions on the loan guarantees were made purely on the merits. The discussion draft ignores the findings and the recommendations of independent consultant Herbert Allison, who conducted a thorough, detailed analysis of the program. He found that it was largely successful and stable, but he did make a series of recommendations to improve performance and program management. DOE is working to implement these recommendations, but the legislation ignores this fact.

Mr. Chairman, I would have loved to have worked on bipartisan legislation to improve this program, just like I would have liked to have worked on bipartisan oversight of the program. But, instead of that, we had a series of very partisan hearings by led to this very partisan legislation, and I hope we can shift course after that and change this legislation in a bipartisan way.

With that, I yield 2 minutes to Mr. Dingell, the chairman emeritus.

OPENING STATEMENT OF HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. DINGELL. Mr. Chairman, I have a fine opening statement which I am going to ask to be put in the record.

We have been suffering through this on many occasions, having a wonderful set of hearings totally unrelated to the facts but having about the same reality as Alice in Wonderland, on a bill that was supported strongly by the leadership and the Members of the Republican party. And now we hear how we are going to correct this whole legislation by a new piece of legislation.

The committee, under the leadership of my Republican colleagues, has been blundering around, crashing into walls, finding nothing, issuing the most inflammatory press releases imaginable, and thinking, apparently, that the constant repetition of this nonsense is going to make somebody believe it.

The harsh fact of the matter is that nothing wrong has been found excepting that a loan failed because the Chinese cut the prices ofthin film electrical generating stuff that draws its power from the sun. And so my Republican friends are crashing around, issuing press releases that sound like Jules Verne in their imagination but demonstrating the wisdom and vision of an earthworm.

And so now this morning we are up to repeal legislation which afforded the United States some opportunity to see to it that we could compete with Chinese, Koreans, Japanese, and others whose governments wisely and prudently fund their national efforts to develop new systems of energy use.

And I would just note that the Volt, which is a superb piece of American engineering, was driven just recently out of an American factory, using American technology, on batteries which were manufactured, guess where, in Korea, because the Koreans are stealing the technology that the Americans have taken, because they have government support.

Same thing is true with regard to the Chinese.

So let me simply observe, Mr. Chairman, this is a prodigious waste of time, waste of opportunity, loss of opportunity for the United States to really become competitive, and it is my hope that the Republicans will finally realize that this is a political exercise and not something which is conferring any good upon the United States.

I thank you.

[The prepared statement of Mr. Dingell follows:]

Statement of Representative John D. Dingell
House Committee on Energy and Commerce
Subcommittee on Energy and Power
Subcommittee on Oversight and Investigations
"No More Solyndras Act"
"Smart Energy Act"
July 12, 2012

Mr. Chairman, after a 17 month long investigation by the Subcommittee on Oversight and Investigations, the bill before us and the testimony we will hear today once again falls short of our oversight and investigatory responsibilities. Time and time again, this investigation refused to focus on the issues at hand and instead engaged in a political witch hunt in an attempt to embarrass this Administration. A witch hunt is not what this country needs; what we need are investments in innovative technologies and sources of energy so America does not fall further behind countries such as China, Korea, Germany, and others who are subsidizing innovative energy technology. We must take charge in innovation and this investigation and the bill before us fails to do either.

In October of last year, we heard testimony from staff from the Department of the Treasury. As the 27 of us, including myself and all chairmen of this Committee, who voted in favor of creating this loan program should know, Treasury is only consulted in making loan guarantees; they do not make the final decision. We forced the two witnesses to endure questions about a project for which they were not qualified to answer. In Chairman Upton's legislation, we're adding consultation with Treasury regarding any restructuring of a loan guarantee. Where is the witness from Treasury to testify about this new role for Treasury and whether they believe they have the expertise necessary to undertake this responsibility? Why won't this Committee bring in the witnesses we need in order to address the concerns that should be addressed?

This legislation is also duplicative of current law and does nothing to address the concern regarding subordination. Section 1702(d)(3) of the Energy Policy Act of 2005 already states, "that the obligation is not subordinate to other financing." The bill before us today includes nearly identical language, "shall not subordinate the interests of the United States Government to any other financing for the project." If this investigation is concerned about the issue of subordination, why is the Majority not proposing to amend the Energy Policy Act of 2005 to address those concerns?

As I have said before, I am concerned that this Committee does not understand the larger picture to be learned from Solyndra. Through the Energy Policy Act of 2005 and the American Recovery and Reinvestment Act, we have already made solid and successful investments in companies that are developing innovative solutions in the automotive industry – smaller, lighter, and more efficient batteries; more efficient biofuels; and stronger, lighter weight body frames for tomorrow's vehicles. We're also investing in clean and renewable energy companies that are deploying today's technology including solar energy, wind turbine projects, and geothermal technology.

Will some of those efforts include risks and failure? Yes they will. However, there will also be successes and we cannot be afraid to invest in American companies who will provide innovation in the future and jobs for the American workforce today.

Ms. DEGETTE. I yield the balance of my time to Mr. Waxman.

OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. WAXMAN. Mr. Chairman, my colleagues, and members of the audience, Mr. Dingell is absolutely right. This is a hearing for politics. That is all it is. And I guess it is an election year, so we can excuse it.

But this Nation faces an urgent energy challenge. The recent wildfires, drought, heat waves, extreme weather events tell us that we must act to address climate change. These are exactly the types of extreme events that scientists have been predicting and that Congress has been ignoring.

According to the National Oceanic and Atmospheric Administration, more than 40,000 high temperature records have been set this year. At the end of June this year, more than 100 million people in the U.S. were in areas under extreme heat advisories. Two-thirds of the country is experiencing drought. More than two million acres have burned in wildfires this year. We need to act to reduce carbon pollution; and there are a range of options for doing that, from putting a price on carbon, to sensible regulations, to incentives for clean energy.

But House Republicans oppose every potential solution. They say no to market-based solutions like cap and trade, no to cost-effective regulations, no to loan guarantees or financial incentives for clean energy, even if they would improve our Nation's global competitiveness.

And they even say no to simply understanding the problem. Representative Rush and I have written to Chairman Upton and Chairman Whitfield 15 times this year to request hearings on various climate change reports and topics, and we have yet to even get the courtesy of a response. Denying the science and refusing to recognize the laws of nature is completely irresponsible.

Regrettably, today's bills are just more examples of the same. No one should mistake the loan guarantee bill we will be considering for a serious effort at reforming the program. In fact, most of the bill is composed of inaccurate and misleading congressional findings.

I am sorry Solyndra happened. We lost $500 million. That is a shame, but that is why loan guarantees are provided, because these are risky enterprises and not all of them are going to succeed.

But there has been no showing of wrongdoing by anybody in this administration due to the Solyndra loan loss, no showing of wrongdoing. Despite the claims being made by the Republicans, there is no evidence for it.

So what are they proposing? Legislation that would, they say, end this loan guarantee program but instead provide billions of dollars still to be used, but they do it in a way that would ignore the best possible technologies. They create a winner's list of about 50 projects that are eligible, and then if any new innovative idea comes up this year or next, it wouldn't be eligible to seek a loan guarantee. Even technologies Republicans claim to support are

abandoned. If an application for a small modular nuclear reactor or a next generation nuclear plant is submitted, DOE is required to reject it.

I don't think this is a way forward. I don't think this is a way to address the problem. Even energy efficiency, which is essentially part of any serious plan to address climate change, it is a low-hanging fruit, reduces pollution while saving Americans money and creating jobs, whether it is a building codes or appliance standards or industrial efficiency improvements. We should be doing much more in this area, and yet we are not moving forward in any energy efficiency opportunity.

Both of the bills we will be considering have serious flaws. We need to step outside the bubble of being in Washington and being consumed by the quest for political power and recognize the havoc that extreme weather is causing around the Nation and develop together solutions to climate change and the real energy challenges facing our Nation.

Thank you, Mr. Chairman.

Mr. STEARNS. I thank the distinguished ranking member of the full committee, and I would just point out that it took us almost 8 months since my subpoena back in November to get the information, and finally the White House was compliant. But this was an arduous task, and we thought— we felt very methodical.

With that——

Mr. WAXMAN. Mr. Chairman, we are having more time go by where we are not even getting answers to our letters to the legal——

Mr. STEARNS. Well, we are moving forward, Mr. Waxman, and we appreciate your concern.

At this point, the opening of the first panel will be handled by the chairman of the Subcommittee on Energy and Power. So, with that, I turn the gavel over to Mr. Whitfield.

Mr. WHITFIELD [presiding]. Thank you, Mr. Stearns, and I want to welcome the members of the first panel. We appreciate your taking time to be with us this morning on what we consider a very important issue. Because our responsibilities as taxpayers is very important, particularly at a time when we have a gigantic Federal debt.

Our two witnesses on the first panel are, first, Mr. David Frantz, who is the Acting Executive Director at the Loan Programs Office at the U.S. Department of Energy; and the second is the Honorable Dr. Kathleen Hogan, who is Deputy Assistant Secretary for Energy Efficiency, Office of Energy Efficiency and Renewable Energy, at the Department of Energy.

So, once again, thank you for being with us. We appreciate it.

I am going to call on each one of you to give a 5-minute opening statement, and then at the end of that time we will give members an opportunity to ask questions.

So, Mr. Frantz, we will begin with you. You will have 5 minutes for an opening statement.

STATEMENTS OF DAVID G. FRANTZ, ACTING EXECUTIVE DIRECTOR, LOAN PROGRAMS OFFICE, DEPARTMENT OF ENERGY; KATHLEEN HOGAN, DEPUTY ASSISTANT SECRETARY FOR ENERGY EFFICIENCY, OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY, DEPARTMENT OF ENERGY

STATEMENT OF DAVID G. FRANTZ

Mr. FRANTZ. Chairmen Whitfield and Stearns, Ranking Members Rush and DeGette, and members of the subcommittee, thank you very much for the opportunity to testify before you today. My name is David Frantz. I am the Acting Executive Director of the Department of Energy's Loan Programs Office.

In the way of an introduction, I am a career member of the Senior Executive Service of the U.S. Government. I was the first employee of the LPO in 2007. Prior to joining the Department to stand up the LPO, I previously served over 10 years with the Overseas Private Investment Corporation in a senior management project finance position underwriting and structuring major energy infrastructure projects around the world. Prior to this government service, my 40-year career has been entirely devoted to project finance in the private sector. And previous to that, I served as a U.S. naval officer, and I am a Vietnam combat veteran.

At the onset, I want to particularly express my thanks to all of you and your respective staffs for your continued interest and attention to the program over the past 5 years. It is important to reiterate the point that this was a program initiated by the U.S. Congress with strong bipartisan support in 2005, and we continually welcomed suggestions from the committees during the course of the development of the LPO.

Before highlighting the progress we have made over the past 5 years, I would also like to acknowledge and commend the LPO staff for their unswerving commitment and diligent work associated with the accomplishments of the program. The staff is one of the finest project finance teams assembled in the world today, and its record over the past years is unprecedented by world standards.

I would hasten to add that the GAO, in its recent audit of the DOE loan program guarantees, acknowledge that commercial lenders interviewed by GAO stated that LPO's underwriting and due diligence standards are as rigorous as, or more rigorous than, those in the private sector.

It is noteworthy that in 2011 the Loan Programs Office was recognized as the largest single source of debt financing for clean energy projects in the United States, public or private. This occurred during a period of time in which the private lending market did not have the ability or willingness to finance the innovative and large-scale clean energy projects that the LPO supports. In addition, two transactions were recently recognized for their exceptional structure by preeminent journals in the project finance field as deals of the year.

At this time, the LPO has committed or closed $35 billion in direct loans or loan guarantees which finance nearly three dozen projects to support more than $56 billion in total project investments. When it ended on September 30th, 2011, the 1705 program included a portfolio of over $16 billion for 28 renewable projects.

Collectively, the LPO projects are expected to support over 60,000 jobs.

While we have faced challenges in our activities, we have always made financial decisions based solely on what we believe at the time will result in the best outcome for the United States taxpayer. We also have reacted on a continuing basis to apply fundamental lessons learned. As I emphasize in my written testimony before you, our work has had substantial and far-reaching impacts that are beyond the contributions of the projects themselves. Whole new sub-industries have been fostered through the supply chains.

With respect to the specific legislation, the administration is currently reviewing it and has not reached an official position.

While we certainly share the goal of protecting taxpayer dollars—that is always our primary objective in the program—the Department has concerns that this legislation will not accomplish that goal. In fact, we are concerned that this legislation potentially could have unintended consequences that would limit our ability to fulfill the mandate that Congress gave us and could potentially put taxpayer dollars, frankly, at risk. Additionally, the legislation could lead to duplication of interagency efforts and add costs.

Let me express our concerns in a little more detail.

First, the legislation would prohibit the Department from making any loan guarantees on applications received after 2011. This provision would make it difficult, if not impossible, to make use of remaining loan authority provided by Congress, particularly in the areas of fossil energy. Moreover, going forward, the Department would increasingly be unable to guarantee loans with the newest and most innovative technologies, particularly in the area of nuclear and renewable projects.

Second, the legislation would extend the consultative role of the Treasury Department when originating and restructuring loans. Each agency in the loan guarantee process plays a particular role based on its existing interests and expertise. The legislation's additional requirements on the Treasury Department may increase the transaction cost to the government by requiring duplication of responsibilities.

And I do note that we have worked very closely and on a continuing basis with the Office of Management and Budget and Treasury on each transaction throughout the approval and closing processes to best utilize their specific areas of expertise.

Finally, the legislation would prevent the Department from subordinating our loans during a restructuring. This provision would weaken the taxpayers' investments by eliminating a tool that may be the best option for saving projects at risk and, in fact, protecting the taxpayer. Herb Allison, who conducted an outside review of the Department's loan portfolio and has decades of experience in the financial world, stated in his testimony before the Senate Energy and Natural Resources Committee that if the paramount issue is taxpayer recovery, he believes the Department should have some flexibility—and I emphasize "flexibility"—to subordinate when necessary.

In conclusion, Mr. Chairman, with your support, we look forward to continuing to promote opportunities for the United States to stay at the forefront of innovation and clean energy generation and

manufacturing while supporting projects that create jobs and reduce pollution. In administering the Title XVII and ATVM programs, we are continuously striving to improve our systems and processes in order to manage loan transactions and portfolios in the most effective and efficient manner possible, all the while with the interests of the U.S. taxpayer as our foremost concern.

Thank you very much again, Mr. Chairman, for inviting me here today. I look forward to responding to your questions.

Mr. WHITFIELD. Thank you, Mr. Frantz.

[The prepared statement of Mr. Frantz follows:]

Statement of David G. Frantz
Acting Executive Director of the Loan Programs Office
U.S. Department of Energy
Before the
Subcommittee on Energy and Power
And
Subcommittee on Oversight and Investigations
Committee on Energy and Commerce
U. S. House of Representatives

July 12, 2012

Introduction

Chairmen Whitfield and Stearns, Ranking Members Rush and DeGette, and Members of the Subcommittees, thank you for the opportunity to testify before you today. My name is David Frantz, and I am the Acting Executive Director of the Department of Energy's (DOE) Loan Programs Office (LPO). I was the first Federal employee hired for the Loan Guarantee Program, and served as its first Director when I joined, moving from the Overseas Private Investment Corporation (OPIC) on August 5, 2007.

The LPO administers two federal loan guarantee programs – Section 1703 and 1705 – for energy technology projects authorized by Title XVII of the Energy Policy Act (EPAct) as amended. It also administers direct loans for the Advanced Technology Vehicles Manufacturing (ATVM) program as authorized under Section 136 of the Energy Independence and Security Act of 2007 (EISA).

DOE's loan programs are a critical part of our nation's commitment to clean energy. I welcome the opportunity to discuss the Loan Programs Office with you and to comment on the legislation being considered by the Committee today.

Background on the Loan Programs

The Section 1703 program was established to support the U.S. deployment of new, innovative technology projects that avoid, reduce, or sequester greenhouse gas emissions. Currently, the program has $18.5 billion in loan guarantee authority for nuclear power projects, $1.5 billion in authority for energy efficiency and renewable energy projects, $8 billion in authority for advanced fossil projects, $4 billion of authority allocated for front-end nuclear projects, and $2 billion of authority that is not allocated to a specific technology sector. Under this authority, the applicant is required to pay the credit subsidy cost of the loan guarantee for their project. In addition, the FY 2011 Continuing Resolution provided approximately $170 million to pay the credit subsidy cost of loan guarantees for renewable energy and energy efficiency projects.

The Section 1705 program was created as part of the American Recovery and Reinvestment Act of 2009 (ARRA) to jump-start the country's clean energy sector by supporting various renewable energy projects that had difficulty securing financing in a tight credit market. Section 1705 pursued additional objectives and exhibited slightly different programmatic features than Section 1703. Most notably, applicants under Section 1705 were not required to pay the credit subsidy costs associated with the loan guarantees they received. Those costs were paid through funds appropriated by Congress.

The ATVM Program was established to expand U.S. business opportunities for advanced automotive technologies that contribute to energy independence and security. Section 136 of EISA 2007 authorizes DOE to finance U.S.-based businesses for manufacturing advanced technology vehicles or vehicle components and for engineering integration facilities. The FY 2009 Continuing Resolution provided up to $25 billion in direct loan authority for the ATVM program, with $7.5 billion in appropriated credit subsidy.

Evolution of the Loan Programs Office

The DOE Loan Programs Office was established to administer DOE credit programs with strong bipartisan support. It was designed to support financing on reasonable terms for innovative clean energy and advanced technology vehicles projects. As such, the LPO supports cutting-edge, innovative, energy technology manufacturing and generation projects in the United States in a wide range of sectors including renewables, nuclear, fossil, automotive, and transmission.

The LPO is a professional finance organization supported by nearly 100 subject matter experts and consultants.

It is important to note that the architecture of the LPO was based on the organization, policies and procedures, lessons learned, and systems employed by other Federal credit programs and private financial institutions.

Each of the policies and procedures implemented by the LPO to effectively underwrite and monitor energy projects is set forth in the Program's policies and procedures documentation, which is regularly reviewed and updated as appropriate..

The independent review by Herb Allison made some important recommendations to strengthen the management and oversight of the loan portfolio. Even before the conclusion of Mr. Allison's review, we took steps – many of which are consistent with the report's recommendations – to improve the loan programs. This includes ensuring that our team has a sufficient number of skilled and experienced personnel to monitor and manage the portfolio. We continue to work to make certain that the Portfolio Management Division has the resource capacity and expertise to actively monitor loan and loan guarantee transactions to protect U.S. taxpayers.

We have improved, and will continue to improve, processes for proactive monitoring, loan administration, compliance, reporting, and resolution capabilities to take into account industry best practices. And we have upgraded the electronic systems of the Loan Programs Office to better automate and standardize data, so it can be reviewed and acted upon in a timely and streamlined manner, and best inform decisions. In addition, we have put in place rigorous internal and external reviews to hold the Loan Programs Office accountable. The Department takes our responsibility to U.S. taxpayers seriously, and we are looking closely at Mr. Allison's recommendations for additional improvements.

In the past year, the LPO has placed a high priority on developing and deploying state-of-the art business operating systems, including workflow management and records management systems. Organizing and maintaining verifiable electronic records, including the voluminous financial, technical, credit, legal, and other documents for each project is of the utmost importance, and the LPO is continuously improving its systems to ensure accurate application tracking, project management, and ready access to historical and current information.

The workflow management system will interface directly with the records management system and will be capable of generating routine monitoring reports on all closed projects. Integrating these systems ensures that LPO historical records are maintained according to Federal records management standards and that ongoing project reports are available in real-time to assist monitoring the portfolio.

Recent Accomplishments

It is noteworthy that the DOE Loan Programs Office represents the largest single source of debt financing for clean energy projects in the U.S. (public or private), as recognized in the *Bloomberg New Energy Finance, 2011 Clean Energy & Energy Smart Technology League Tables*. This has served to augment the capacity of capital markets to finance innovative and large-scale clean energy projects.

As of today, the LPO has committed or closed $35 billion in direct loans and loan guarantees, which finance nearly three dozen projects, with total project costs greater than $55 billion. When the Section 1705 program ended on September 30, 2011, it included a portfolio of over $16 billion in loan guarantees for 28 renewable energy projects. Collectively, LPO projects are expected to support nearly 60,000 jobs and deploy alternative energy that will save nearly 300 million gallons of gasoline per year. Of LPO's 19 generation projects, six are already complete and nine are sending power to the electricity grid. LPO projects include:

- The first two all-electric vehicle manufacturing facilities in the United States
- One of the world's largest wind farms
- One of the country's first commercial-scale cellulosic ethanol plants
- The first new commercial nuclear power plant to receive a combined construction and operating license and be built in the U.S. in the last three decades (conditional commitment)
- One of the first large-scale distributed photovoltaic projects, which places solar panels on commercial rooftops across 28 states
- Several of the world's largest solar generation facilities including:
    - The largest utility scale photovoltaic generation facility
    - The largest concentrated solar power plants in the world, two of which have the world's largest thermal energy storage systems

I would like to highlight three projects to demonstrate how projects funded by the LPO are able to fulfill the legislative intent of their respective program.

The 290 megawatt Agua Caliente solar generation project, owned by NRG Solar, LLC and MidAmerican Energy Holdings Company, is based in Yuma County, Arizona and will be the world's largest solar photovoltaic installation when fully operational. The project is already more than 70 percent complete. More than 3.3 million solar panels, spanning more than 2,300 acres, have been installed, and the project has started delivering clean, renewable energy to the power grid. For the more than 1,300 workers at peak construction, the project means steady employment, marketable skills, and the opportunity to play a critical role in shaping the nation's energy economy. The impact of this project is seen beyond the project site. Last year, First Solar, the engineering, procurement and construction contractor for Agua Caliente and other projects, spent more than $1 billion with U.S. suppliers across 38 states. Major domestic suppliers of steel fabrications and electrical equipment for Agua Caliente and other First Solar-supported projects include an Arizona-based division of Omco, Connecticut-based

Highway Safety Corp., Texas-based Powerhohm, and SMA Americas of Colorado. In addition, the project is using approximately 39,000 tons of American steel.

The 392 megawatt Ivanpah Solar Generating Complex, which is owned by NRG Energy, Inc., Google and BrightSource Energy, Inc., is located in Baker, California. The Complex is one of the largest infrastructure projects in the nation and the largest solar thermal plant under construction in the world. There are more than 1,700 workers currently on site, including manual construction workers, engineers, biologists and project managers. The impact of this project is also seen beyond the project site. For example, Ivanpah's steel supplier, Gestamp Solar Steel, built a new facility in Surprise, Arizona to keep up with orders. In addition, Michigan-based Guardian Industries started supplying 160,000 of its EcoGuard Solar Boost mirrors in November 2011. The Ivanpah Complex is approximately one-third complete.

And finally, with support from its Advanced Technology Vehicles Manufacturing loan, Ford Motors is helping to position the U.S. auto industry as a leader in fuel-efficient vehicles worldwide. Ford's ATVM projects have and will continue to raise the fuel efficiency of more than a dozen popular vehicles, including the Focus, Escape, Taurus, and F-150 trucks, representing approximately two million new vehicles annually. Furthermore, the ATVM loan program has assisted Ford to upgrade a number of key manufacturing facilities, enabling Ford to assemble high quality vehicles while transforming approximately 33,000 employees in the United States to clean engineering and manufacturing jobs in factories across six states – Illinois, Kentucky, Michigan, Missouri, New York and Ohio – and beyond throughout the supply chain.

LPO's entire portfolio of projects is now managed by the Portfolio Management Division, which employs industry "best practices" in asset management and portfolio monitoring processes and systems. Many of these have also been successfully employed for decades at federal institutions, as well as leading private lending institutions across the country.

In addition to active portfolio management, the LPO is working to close the advanced nuclear power generation project (Vogtle Project), and the AREVA uranium enrichment facility; performing due diligence on several advanced fossil projects; and actively working a project pipeline to use the approximately $170 million in appropriated credit subsidy in addition to the $1.5 billion in authority for qualified renewable energy and energy efficiency projects under Section 1703, whose applications were received before February 24, 2011.

Current Status of Loan Portfolio

In the Independent Consultants Report, Herb Allison evaluated both the monitoring efforts of the Loan Programs Office and its portfolio. As part of this effort, he and his team reviewed each active loan in the portfolio. They looked at the risk factors behind each loan and estimated the costs of each loan. Mr. Allison's report concluded that the Department is using the appropriate risk factors in assessing each loan. In some cases, the report recommended minor differences in the weights given to each factor.

The Federal Credit Reform Act defines the cost of these loan programs as the estimated long-term cost to the government, including the risk of default net of recoveries; for each loan, the subsidy estimate can be thought of as similar to a loan loss reserve. Congress appropriated $10 billion in credit subsidy under

the Federal Credit Reform Act for Title XVII and the Advanced Vehicle Loan Programs. Not all of the appropriated credit subsidy has been obligated.

While the portfolio includes loans to a range of projects that carry different levels of risk, the report finds that the Department of Energy has reasonably estimated the costs of these risks. In fact, Mr. Allison estimates that the estimated long-term cost of the outstanding portfolio is $2.7 billion, roughly $200 million lower than Department's most recent estimate.

Legislation

The Department has concerns about the draft legislation being considered by the Committee today. The major provisions of the bill are as follows. The legislation would prohibit the Department from making any loan guarantees on applications received after 2011. The legislation would require the Treasury Secretary to make a written recommendation on "the merits of the guarantee", and if the Department does not follow Treasury's recommendation, the Energy Secretary would have to submit to Congress an explanation of why the recommendation was not followed. The legislation would also require the Energy Department to consult with the Treasury "regarding *any* restructuring of the terms and conditions of the loan guarantee" (emphasis added). Finally, the legislation would prevent the Department from subordinating a government loan in restructuring.

As discussed above, the Department has worked continuously to strengthen the loan programs. This effort has included improvements to the way loan guarantees are originated and the way in which they are monitored. With these improvements in place, the Department has concerns that the legislation would not result in increased taxpayer protections, but would instead hinder effective implementation of this important program.

Conclusion

Securing America's economic leadership in the future requires that we support innovation and deployment today. The troubles of some segments in the solar manufacturing market should not overshadow the great work that the Department's loan programs have done to date, or the need to continue to find ways to support clean energy deployment in this country.

That said, developing a robust clean energy manufacturing sector in the United States is crucial to our long-term national interests, and would help enable American companies and workers to attain the tools needed to succeed in this competitive space. And one of the most important tools — as our global competitors have learned — is financing on reasonable terms, wisely targeted and responsibly deployed. The question is whether we are willing to take on this challenge, or whether we will simply cede leadership in clean energy to other nations and watch as tens of thousands of jobs are created overseas. We were once the leaders in this field, and we can be again.

Thank you again for inviting me here today. I look forward to responding to your questions.

Mr. WHITFIELD. Dr. Hogan, you are now recognized for 5 minutes. And there is a little box on the desk that when it says red, that means stop. I won't stop you immediately, but it will give you some semblance of where you are.

Thank you.

STATEMENT OF KATHLEEN HOGAN

Ms. HOGAN. Thank you.

Chairmen Whitfield and Stearns, Ranking Members Rush and DeGette, and members of the subcommittee, I do thank you for the opportunity to discuss the Department's efforts to improve the energy efficiency of the Federal Government and the industrial sector and to comment briefly on the legislation being considered by the committee today.

President Obama's all-of-the-above energy strategy is designed to reduce our dependence on oil, save businesses and consumers money, make us more energy-secure, protect our environment, and position the United States as the global leader in clean energy. And in pursuit of these goals, DOE supports a broad range of efforts, research and development for new advanced energy technologies, works to accelerate the adoption of efficient products and services, and also assists the Federal Government in leading by example in these areas.

We do want to thank you for your efforts and do support many provisions of the Smart Energy Act, though we would also like the opportunity to provide technical assistance in several places to offer greater clarity or adjustments based on what we know is already well under way.

I will now go on to talk about DOE efforts related to the draft act.

First, I want to highlight that the Federal Government is making great strides leading by example on energy and sustainability goals set by Congress and the executive branch. And, indeed, performance contracting is very important to these efforts. We have Executive orders and enacted legislation such as EPAct05, EISA 2007, which establish a number of goals for energy intensity, water intensity, greenhouse gas reductions, fleet energy use, renewable energy, sustainable procurement, and datacenter efficiency.

DOE's Federal Energy Management Program, or FEMP, as it is known, provides assistance across the government to help achieve these goals cost-effectively as well as reporting on progress. The results, to date, are significant. We are seeing reductions in energy use per square foot by about 15 percent, reductions in water use intensity by more than 10 percent, and use of renewable energy sources for more than 5 percent of electric.

And, indeed, performance-based contracting has been important to much of this progress. Since 2006, FEMP has assisted Federal agencies in saving offer $5 billion in energy costs over the average life of the efficiency measures implemented through these contracts, and is now working with Federal agencies to help them achieve the President's directive under the Better Buildings Initiative of engaging in an additional $2 billion or more in performance-based contracting. Here we look forward to working with the com-

mittee to see how we can continue to use this mechanism as effectively as possible.

I also would like to highlight what we are doing with electric vehicles. They can certainly make a tremendous contribution to energy security, environmental and economic objectives. And the Federal Government is doing a lot here. While DOE supports a broad portfolio of vehicle technology work, we do also have a strong emphasis on electric vehicles. Their broad use can have a big impact on reducing our dependence on foreign oil, provide stable and low fuel prices for American families, while they also have the convenience of just plugging in at home, and they can reduce the overall environmental impact of transportation.

Across the administration, EVs and charging infrastructure is being adopted into the Federal fleet. Clearly, there is more opportunity, particularly as the costs for EVs continue to come down. And we are available to work with the committee to figure out the best approaches for continuing to advance EVs in the Federal fleets.

We also do do important new work to bring down the cost of EVs. We have the new EV–Everywhere Grand Challenge, where DOE is working with the public and private sectors to set aggressive goals to develop the next generation of vehicle component and charging technologies to assure cost-competitive plug-in electric vehicles. This initiative also aims to put the U.S. in the lead to manufacture and export the next generation of advanced plug-in EVs and its components to create high-paying American manufacturing jobs.

Continuing on the theme of the importance of American manufacturing jobs, we are also working to strengthen the Nation's manufacturing sector in ways that can create more jobs and enhance U.S. competitiveness. The DOE's Advanced Manufacturing Office supports high-impact manufacturing and materials research and development. We work and coordinate well across the National Institute of Standards and Technology, NSF, the Defense Department, and other government agencies. And we are particularly prioritizing those crosscutting technologies that are common to many clean energy technologies and really many industries so that we can engage in these high-impact areas.

We also are working with today's industries to help them save energy and increase profitability. One example is our Better Buildings, Better Plants program, where energy leaders agree to set goals to improve their operation energy use by 25 percent or more over 10 years. This program now includes 110 companies representing 14,000 plants across more than 20 industries, and they are making great progress.

Finally, I just want to comment on our continued support for combined heat and power development. CHP is an efficient and clean approach to energy generation. Instead of purchasing electricity and burning fuel separately, you can do it together with much higher conversion efficiencies. Recognizing the benefits of CHP and its current underutilization in the U.S., we are focused on accelerating the deployment of new and cost-effective CHP, for example, through our regional Clean Energy Application Centers, where we assist in transforming the market for CHP, waste heat to power, and district energy technologies throughout the country.

The centers focus on assessments, education, outreach, and technical assistance.

So, just in summary, we are making a lot of progress improving the efficiency of buildings, the Federal sector, vehicles, industries, but there also continues to be large additional opportunities in each of these areas where we can have important impacts for improving security, saving energy, and protecting our environment.

We really appreciate the opportunity to be here and are happy to answer your questions.

[The prepared statement of Ms. Hogan follows:]

STATEMENT OF DR. KATHLEEN HOGAN

DEPUTY ASSISTANT SECRETARY FOR
ENERGY EFFICIENCY

OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY
U.S. DEPARTMENT OF ENERGY

BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
AND
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS
COMMITTEE ON ENERGY AND COMMERCE
U. S. HOUSE OF REPRESENTATIVES

JULY 12, 2012

Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee, thank you for the opportunity to discuss the Department's efforts to improve the energy efficiency of the Federal government and the industrial sector, and to comment on the legislation being considered by the Committee today.

As Deputy Assistant Secretary for Energy Efficiency in the Office of Energy Efficiency and Renewable Energy (EERE), I am responsible for overseeing DOE's portfolio of energy efficiency research, development, demonstration and deployment activities, including DOE's efforts to improve the energy efficiency of buildings, vehicles, and industry.

President Obama's all-of-the-above energy strategy is designed to reduce our dependence on oil, save businesses and consumers money, make us more energy secure, protect the environment, and position the United States as the global leader in clean energy.

In pursuit of these goals, DOE supports the research and development of new and advanced energy technologies and pursues programs to accelerate market adoption of energy efficient products and services. DOE also assists the Federal government in moving towards a clean energy future. Today, I will address EERE's efforts in the following areas:

1) The Federal government's progress in meeting its energy and sustainability goals;
2) The Federal government's efforts in advanced vehicles;
3) The Department's manufacturing efficiency and competitiveness focus; and,
4) The Department's support of combined heat and power (CHP) technology.

We appreciate Congress' support for improving the development and implementation of energy efficiency measures within the Federal government. The Department has concerns with the Smart Energy Act as drafted, and many of the purposes sought in the bill can already be achieved using existing Federal authorities and tools, including Federal Data Center Consolidation, advanced metering and power management. In addition, the Administration supports the current use of ESPCs and UESCs combined with appropriated funding but at this time does not support the expansion of or full reliance on these contracting tools to meet our energy goals. We look forward to continuing our work with Congress and this committee on these important issues. I will now describe some of the activities underway and DOE's role in supporting them.

1. The Federal government's progress in meeting its energy and sustainability goals

The Federal government has the opportunity to significantly reduce its energy bills as well as to provide leadership in achieving greater energy efficiency and meeting other sustainability goals. The Federal government owns or leases more than 3 billion square feet of building space, which

represents 4 percent of the commercial square footage in the United States.[1] In addition, the Federal government owns or leases nearly 660,000 fleet vehicles.[2] In total, the annual energy bill to the Federal government in FY2010 was approximately $20 billion for buildings, vehicles and equipment.

The size and impact of the government's investment in buildings and vehicles—and the corresponding use of energy and other resources— prompted a number of energy management and other sustainability goals established through statutes and Executive Orders, including the Energy Independence and Security Act of 2007 (EISA) and Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance.

DOE's Federal Energy Management Program (FEMP) was established to provide services, tools, and expertise to Federal agencies, in part, to help them achieve the statutory and Executive Order goals. FEMP offers technical assistance and guidance to agencies on energy efficiency, renewable energy and other energy management projects. FEMP also helps agencies use both appropriated funds and money leveraged through performance contracts such as energy savings performance contracts (ESPCs) and utility energy services contracts (UESCs) to implement and fund energy efficiency, renewable energy and water efficiency projects. ESPCs and UESCs require no net additional appropriated funds to implement, beyond the first year costs, and are paid for through guaranteed energy savings.[3]

FEMP also collects information from the agencies on their progress toward the energy savings and investment goals, facilitates the Office of Management and Budget's (OMB) development of annual agency scorecards, and reports annually on the Federal government's progress.

The preliminary data from FY2010 indicate that the Federal government as a whole is making steady progress in achieving its buildings-related energy, water and sustainability goals. For example:

- The Federal government achieved a 14.6 percent reduction in energy use per square foot as compared to FY2003, just shy of the 15 percent interim target. The Federal government is required to reduce energy intensity by 30 percent by FY2015, under Section 431 of the Energy Independence and Security Act of 2007.

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[1] Calculated using data from *AEO 2012 Early Release Overview,* Energy Information Administration. January 2012.
[2] Fiscal Year 2010 Federal Fleet Report, General Services Administration. Available at: http://www.gsa.gov/portal/content/102943
[3] In a UESC, a utility arranges funding to cover the capital costs of the project, which are repaid over the contract term from cost savings generated by the energy efficiency measures. With this arrangement, agencies can implement energy improvements with no initial capital investment. The net cost to the Federal agency is minimal, and the agency saves time and resources by using the one-stop shopping provided by the utility.

- Renewable energy sources provided 5.2 percent of the Federal government's electricity use, ahead of the target of 5 percent. In FY2013 and beyond, the goal under Section 203 of the Energy Policy Act of 2005 (EPACT 2005) is for the government to derive at least 7.5 percent of its electricity from renewable sources to the extent economically feasible and technically practicable.
- The Federal government reduced its potable water intensity use by 10.4 percent as compared to FY2007. The target reduction by FY2010 was a 6 percent reduction, with a long-term goal of a 26 percent reduction by FY2020 under Executive Order 13514.
- And, the Federal government's emission of scope 1 and 2 greenhouse gases (GHG)—that is, all direct GHG emissions and indirect GHG emissions from the consumption of purchased electricity, heat or steam, the majority of which arise from building energy use—were reduced by 6.4 percent in FY2010 relative to FY2008. The government's aggregated long-term target is a 28 percent reduction.

The use of ESPCs helps in achieving and making progress on these goals. Since 2006, FEMP assisted Federal agencies in saving more than $5 billion in energy costs over the average life of efficiency measures implemented through ESPCs. As part of the Administration's Better Buildings Initiative, the Administration matched the private sector commitments of $2 billion in energy efficiency improvements by pledging to pursue by December 2013 $2 billion in energy efficiency performance-based contracts, including ESPCs and UESCs.[4] FEMP is actively assisting Federal agencies to enable them to meet this commitment.

While DOE and the Administration support the use of performance based contracts, including ESPCs and UESCs, to achieve improvements in energy efficiency, we recognize that performance based contracts are but one of many approaches to energy management. We believe that the Federal agencies and individual Federal facilities should have the greatest possible flexibility in pursuing energy efficiency and renewable energy goals.

We are specifically concerned that Sec. 101 of the Smart Energy Act limits this flexibility by giving preference to private financing over Federally appropriated funds in implementing energy projects. The Federal government can often achieve greater long-term cost savings if projects are fully funded through appropriated funds, rather than through private financing and performance-based contracts alone. Also, the expansion of ESPC and UESC authority from buildings to vehicles and fueling infrastructure is potentially problematic, in part because of the shorter lifetimes and more varied use of vehicles compared to buildings. While we appreciate

[4] Presidential Memorandum -- Implementation of Energy Savings Projects and Performance-Based Contracting for energy savings. December 2, 2011. Available at: http://www.whitehouse.gov/the-press-office/2011/12/02/presidential-memorandum-implementation-energy-savings-projects-and-perfo

the support of the Congress on these efforts, we would question whether this legislation is necessary to address these goals.

2. The Federal government's efforts in advanced vehicles

As part of its all-of-the-above energy strategy, and in its efforts to reduce oil imports by one-third, the Obama Administration invested in developing a portfolio of vehicle technologies that run on a variety of fuels. In regard to electric vehicles (EVs), the Administration has a goal to see 1 million EVs deployed in the marketplace by 2015. EVs make sense for a number of reasons, including:

- Electricity is cheaper than gasoline for powering a vehicle (<$1/gallon equivalent gasoline price).
- Electric vehicles allow for convenient fuel up at home at night, or potentially at work.
- Electric vehicles can potentially offer the same or better driving performance compared to today's gasoline powered vehicles.
- Electric vehicles will reduce America's dependence on oil, helping to protect consumers from price spikes and to keep the money Americans spend on fuel here in the United States.

Currently, the Federal government has about 60 EVs in its vehicle fleet, with an additional 3,600 low-speed EVs, and 86 EV charging stations. The Administration's Electric Vehicle Pilot Program, administered by the General Services Administration, is deploying another 116 EVs and the associated charging infrastructure across the nation.

Further, the Department is committed to additional breakthroughs in EV technology through "EV Everywhere." EV Everywhere is a DOE "Clean Energy Grand Challenge" with the overall goal of enabling U.S. companies to be the first in the world to produce electric vehicles that are as affordable and convenient for the average American family as today's gasoline-powered vehicles within the next 10 years. As part of the EV Everywhere challenge, DOE is working with industry, universities, our national laboratories and government partners to set aggressive goals and rapidly develop the next generation of vehicle, component, and charging technologies that will enable sufficient EV cost, range and infrastructure to assure widespread EV deployment without subsidies. Broad EV deployment will dramatically decrease American dependence on oil, provide stable and lower transportation prices for American families with the convenience of plugging in at home, and reduce the environmental impact of the transportation sector. Winning the EV Everywhere Challenge will also help put the U.S. in the lead to manufacture and export the next generation of advanced EVs and EV components, creating high paying manufacturing jobs and helping to stimulate the American economy.

Due to the importance of EV technology to America's clean energy future as well as potential cost savings to the taxpayer, the Administration is supportive of accelerating the adoption of EVs into the Federal fleet, as well as the associated charging infrastructure. My office is available to work with the Committee in addressing the technical issues involved in further electrification of the Federal fleet.

3. The Department's manufacturing efficiency and competitiveness focus

A strong domestic manufacturing base is critical to preserving and creating American jobs, spurring economic growth, and improving our economic security. DOE plays a key role in continuing to strengthen the nation's manufacturing sector through our Advanced Manufacturing Office (AMO). AMO supports advanced manufacturing and materials research and development as well as deployment activities through a diverse portfolio of partnerships focused on the research, development, and demonstration of high impact, nationally important and timely energy efficient technologies.

DOE's advanced manufacturing investments are well coordinated within DOE and across the Federal government. As a key part of the Advanced Manufacturing Partnership, AMO coordinates with the National Institute of Standards and Technology (through the Department of Commerce), the National Science Foundation, Defense Department, and other government agencies as a part of a whole-of-government approach to advanced manufacturing. DOE is one of the collaborating agencies supporting the President's proposed National Network for Manufacturing Innovation which will establish up to 15 regional hubs of manufacturing excellence to make our manufacturers more competitive and encourage investment in the United States. A pilot effort focused on additive manufacturing will be established in 2012 with joint funding from DOE and its partner agencies.

AMO also works with other Program Offices within EERE to identify important pre-competitive technology domains for investment and opportunities for co-funding and joint solicitation within DOE. For instance, AMO's recent Innovative Manufacturing Initiative (IMI) Funding Opportunity Announcement (FOA)—which received over 1,400 Letters of Intent from industry—was coordinated with other EERE offices such as the Building Technologies Program (BTP). As a result of this collaboration, one IMI proposal – for efficient manufacturing of gallium nitride semiconductor materials – has been selected for co-funding by both BTP and AMO, pending contract negotiation. AMO is strategically positioned to address a number of cross-cutting challenges that are common to many clean energy technologies supported by the Department. For example, ongoing investments in low cost carbon fiber composites can greatly increase efficiency in vehicles, commercial aircraft, and wind generators. In addition, advanced materials like wide band gap semiconductors could enable highly efficient lighting, power electronics for photovoltaic systems, and electric motors that do not use critical materials.

In addition to supporting these novel technologies, AMO also partners with today's industry to help save energy and increase profitability. For instance, industrial firms in the Better Buildings, Better Plants Program agree to serve as energy leaders in their industry to reduce the energy intensity of their manufacturing operations by 25 percent over ten years. The program has grown to include 110 companies representing over 1,400 plants across more than 20 industries. In 2010, participants reported approximately 15 trillion British Thermal Units (TBTUs) of energy savings and about $80 million in annual cost savings, or $800 million over the lifetime of the investments. DOE's goal is to grow the Better Buildings, Better Plants Program to cover an increasing percentage of the U.S. manufacturing energy footprint over time.

4. The Department's support of combined heat and power (CHP) technology

Combined heat and power (CHP) is an efficient approach to generating electric power and useful thermal energy from a single fuel source, and remains a key priority for DOE. Instead of purchasing electricity from the distribution grid and burning fuel in an on-site furnace or boiler to produce thermal energy, an industrial or commercial facility can use CHP to provide both energy services in one energy-efficient step. CHP is commercially available and directly addresses a number of national priorities, including improving the competitiveness of U.S. manufacturing, increasing energy efficiency, reducing emissions, enhancing our energy infrastructure, improving energy security and growing our economy.

Recognizing the benefits of CHP and its current underutilization as an energy resource in the United States, the DOE is focusing its efforts to increase the use of cost-effective CHP. One way in which we aim to do so is through our Regional Clean Energy Application Centers, which promote and assist in transforming the market for CHP, waste heat to power, and district energy technologies and concepts throughout the United States. They focus on market assessments, education and outreach, and technical assistance.

Summary

In summary, we are making progress improving the efficiency of the nation's buildings, vehicles and manufacturers, but there continues to be large opportunities in the Federal sector and across the country that can help build jobs, save energy, and protect our environment. The nation is on the right track toward achieving the President's goals of reducing oil imports by one-third, deploying EVs into the marketplace, and improving America's manufacturing competitiveness. We appreciate the opportunity to testify. I will be happy to address your questions.

Mr. WHITFIELD. Thank you, Dr. Hogan. And thank both of you for your testimony.

I will now recognize myself for 5 minutes for the purpose of asking questions.

Mr. Frantz, when I am back in my district and I talk to civic clubs in Kentucky and elsewhere, when they find out that I am involved in the energy policies of the United States Government, inevitably this question comes up about Solyndra. It is almost becoming an example of many people's feeling of incompetence in government. And you know there is a lot of anger out in the public anyway about taxpayer dollars.

And in your testimony, you indicated that protecting taxpayer dollars was one of the primary responsibilities that you have as the Acting Director at the LPO program. And so I want to ask you some questions regarding this subordination issue.

Now, the Director of the OMB at that time, Jacob Lew, sent out this Circular A–129 guidance document to executive departments which basically prescribed policies and procedures for designing credit programs, including the loan guarantee program. And it specifically said, the government claims should not be subordinated to the claims of other creditors because subordination increases the risk of loss to the government and to taxpayers.

Now, Circular A–129 would apply to DOE and the loan guarantee program, wouldn't it?

Mr. FRANTZ. Yes, sir.

Mr. WHITFIELD. And since it does apply and it specifically says what it does, how did you all feel like you could subordinate taxpayers to the interests of private investors?

Mr. FRANTZ. Mr. Chairman, first—and I would answer your question in two parts, very quickly.

The first part is that the career civil service attorneys, both on our staff and the general counsel's office of the U.S. Department of Energy, made a determination in advising us that, in fact, it was legal for us to subordinate under the circumstances that we were confronted with for the Solyndra project. So that is the fundamental decision that was taken.

The other thing, the part two of my answer, would be, quickly, that, as I indicated in my oral testimony and this Congress has heard from another very senior expert, Herb Allison, this tool would only be used in in extremis situations where we have a very distressed project. And the important point I tried to emphasize in my oral testimony was that, in fact, by doing it, it is the one last chance we have to, rather than liquidate the project——

Mr. WHITFIELD. OK, so this was a distressed project, and you all subordinated in the hope that you could save the project; is that correct?

Mr. FRANTZ. That is correct, sir.

Mr. WHITFIELD. I might also say that in the language of the Energy Policy Act of 2005, it also strictly prohibited subordination, in that act itself. What did the lawyers say about that?

Mr. FRANTZ. The determination, as I just indicated to you, Mr. Chairman, was that we acted perfectly legally within the requirements that were at hand and the law.

Mr. WHITFIELD. Do you feel like that is placing a priority of protecting the taxpayers of the U.S.?

Mr. FRANTZ. We certainly do. As I indicated in my oral testimony to you, this is a last resort. This is not a tool that is taken lightly. And——

Mr. WHITFIELD. And how much money has been lost in the Solyndra case?

Mr. FRANTZ. I don't have the figure right in front of me, but we can get that for the record.

Mr. WHITFIELD. How much money did you all loan to them?

Mr. FRANTZ. Roughly, it was—I don't remember the exact number, but for the record I will get it to you.

Mr. WHITFIELD. Was it, like, $538 million, or how much was it?

Mr. FRANTZ. In that range, sir.

Mr. WHITFIELD. How much do we expect to recover?

Mr. FRANTZ. Five-twenty-seven was the number, Mr. Chairman.

Mr. WHITFIELD. Five hundred and twenty-seven. And how much do we expect to recover?

Mr. FRANTZ. We don't have a determination yet. There is still a possibility—as you know, it is in bankruptcy, so it is being handled by a bankruptcy——

[The information follows:]

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As the bankruptcy process has not concluded, the Department cannot predict the total loss at this date.

Mr. WHITFIELD. But we know the taxpayers will be paid back last, right?

Mr. FRANTZ. Not necessarily last, but they are not going to be—they won't be first.

Mr. WHITFIELD. The private investors will be before the taxpayers, correct?

Mr. FRANTZ. Pardon me?

Mr. WHITFIELD. The private investors will be paid back before the taxpayers?

Mr. FRANTZ. I don't know the order of precedence, but——

Mr. WHITFIELD. That is the purpose of subordination language.

Mr. FRANTZ. It is.

Mr. WHITFIELD. On DOE's Web site, they talk about jobs being created. And they said that Abound Solar would create or save 1,200 jobs, so many would be created or saved by Solyndra, and also by Beacon. And since all of them have not turned out as planned, it looks like a total of these 1705 projects has been, like, 1,174 permanent jobs have been created. A total of loans have been made of $16 billion, which comes to $13,738,075 for every created job.

Do you feel like that is a good return for the American taxpayer?

Mr. FRANTZ. Mr. Chairman, I think that you have to think about that issue in context. From the industries I come from—I come from the major energy infrastructure industries. You have to remember that these industries, by definition, are capital-intensive, not labor-intensive. We have very few manufacturing plants, which are more labor-intensive, in our portfolio. The predominance of our portfolio and the objective, really, of the act is to be creating large infrastructure, utility-scale projects. And, by definition, they are not a multiplier for job creation.

Mr. WHITFIELD. So they are pretty risky, would you say?

Mr. FRANTZ. We feel just the opposite, Mr. Chairman, that solar energy generation projects are just the opposite. They have long-term——

Mr. WHITFIELD. Well, let me just say, the record shows quite clearly the taxpayers have lost a lot of money, you all have deliberately subordinated them to the private investors, and the jobs created are unbelievably expensive. And that is why we feel like this program is a total failure.

At this time, I would recognize the gentlelady from Colorado, Ms. DeGette.

Ms. DEGETTE. Mr. Chairman, I would just ask, if you or your staff have this Circular A–129 that you referred to, if we could put a copy of that into the record, that would be helpful.

Mr. WHITFIELD. Oh, good idea. Yes, we will do that.

Ms. DEGETTE. Thank you, Mr. Chairman.

Mr. Frantz, I want to ask you a couple questions.

First of all, the chairman referred to this Circular A–129. That circular banned subordination in making the initial loans under this DOE loan program, correct?

Mr. FRANTZ. I don't have——

Ms. DEGETTE. In the making of the initial loans, not in the restructuring.

Mr. FRANTZ. That is our interpretation, that——

Ms. DEGETTE. OK. Thank you.

Mr. FRANTZ [continuing]. Clearly, the provisions referred to the origination.

Ms. DEGETTE. The Energy Act of 2005 that the chairman referred to, that also prohibited subordination in the making of the initial loans, not restructuring, correct?

Mr. FRANTZ. Correct.

Ms. DEGETTE. And the DOE lawyers looked at this, and they decided that it would be legal to subordinate the taxpayers' interest in the restructuring of the Solyndra loan; is that correct?

Mr. FRANTZ. Correct.

Ms. DEGETTE. And can you tell us briefly what—I mean, none of us likes the idea of the taxpayer position being second, to be honest, because in a situation like the Solyndra situation, where the company goes bankrupt, then the private lenders have a superior position to the taxpayers. And we don't like that.

So I would like you to explain to the committee, very briefly, why it was determined in the restructuring of the Solyndra loan that it would be a good idea to subordinate the taxpayers' interest.

Mr. FRANTZ. Thank you, Ms. DeGette.

As I said and I indicated in my previous comments, this is a tool of last resort in restructuring. But it is used specifically to attract new, refreshed debt and/or equity into the transaction with the hope of saving the project. That is precisely what it is used for. And those investors, new money coming into an already distressed property, almost demand, to mitigate the risk, that they have a senior position.

Ms. DEGETTE. So, in other words, because the Solyndra project was in trouble, it was DOE's hope that they could save this project by restructuring it; is that right?

Mr. FRANTZ. Emphatically. Emphatically.

Ms. DEGETTE. OK. And it was the determination of the DOE that the only way they could do that, they could attract that new capital, the only way people would invest, private investors would invest, is, in fact, if they had this superior position.

Mr. FRANTZ. In fact, it was——

Ms. DEGETTE. Was that your decision, yes or no?

Mr. FRANTZ. Yes.

Ms. DEGETTE. OK. So, in the findings—and so, it didn't really work out, but we still might recover something; is that right?

Mr. FRANTZ. Hopefully.

Ms. DEGETTE. And one of the reasons why we have these DOE loans is because these are by nature risky businesses; is that right?

Mr. FRANTZ. Correct.

Ms. DEGETTE. And for Solyndra, one thing we heard in the subcommittee investigation was that because of changing market conditions, mainly caused by China, Solyndra's business model really had trouble. Is that what DOE found, as well?

Mr. FRANTZ. Absolutely correct.

Ms. DEGETTE. And that was what caused the whole thing to kind of fall apart; is that right?

Mr. FRANTZ. Correct.

Ms. DEGETTE. Now, in the findings, in the six pages of findings in this bill that we are talking about today, one of the findings

claims that the DOE loan review process was, quote, "driven by politics and ideology and divorced from economic reality."

Now, Mr. Frantz, you have been the director of the loan guarantee program since 2007 under the Bush administration, and that is a career position; is that correct?

Mr. FRANTZ. Correct.

Ms. DEGETTE. Now, in your position, do you believe that the statement that I just made from the findings is an accurate statement, that it was driven by politics and idealogy?

Mr. FRANTZ. To the very best of my knowledge, through the whole history of the program from its inception to today, it has not been driven by any political considerations whatsoever.

Ms. DEGETTE. OK.

Mr. FRANTZ. All of our work and all of the projects are represented by career and due diligence, and they have been awarded on the merits of the transactions themselves.

Ms. DEGETTE. Now, is it fair to say that at the time you approved the loan you conducted a thorough analysis and believed that the company would be a worthwhile investment for the DOE loan program?

Mr. FRANTZ. In the time that we did the due diligence, that is absolutely correct, in that time frame.

Ms. DEGETTE. Can you assure us that the Solyndra decisions were made on the merits and that there was no favoritism shown toward Solyndra or any other loan recipient?

Mr. FRANTZ. I can absolutely make that assurance to you.

Ms. DEGETTE. Now, sitting here today—of course, hindsight is always 20/20—do you think that there are improvements that could be made to this loan program?

Mr. FRANTZ. There certainly are. And we are, as I indicated in my testimony, we are employing fundamentally lessons learned all the time throughout the——

Ms. DEGETTE. We would really appreciate it if you wouldn't mind supplementing your testimony today to give this committee some recommendations of what we can do to strengthen the program rather than to just be pounding on it for political reasons.

Mr. FRANTZ. We certainly will take you up on that.

Ms. DEGETTE. Thank you very much, Mr. Chairman.

Mr. WHITFIELD. At this time, I recognize the gentleman from Florida, Mr. Stearns, for 5 minutes.

Mr. STEARNS. Thank you, Mr. Chairman.

Mr. Frantz, I heard you say in your opening statement that the DOE needs to have the ability to continue, forever almost, to subordinate taxpayers' interest on these loan guarantees. Is that your position this morning?

Mr. FRANTZ. It is——

Mr. STEARNS. Just yes or no.

Mr. FRANTZ. Yes.

Mr. STEARNS. OK. And it is DOE's interpretation that subordination is perfectly legal, in your opinion?

Mr. FRANTZ. Yes, it is.

Mr. STEARNS. OK.

Let me read, Mr. Frantz, read from the Department of Energy Act of 2005 to you on subordination. "The obligations shall be sub-

ject to the condition that the obligation is not subordinated to other financing." Do you recognize that language?

Mr. FRANTZ. I do, sir.

Mr. STEARNS. Does DOE intend to subordinate other loans, yes or no?

Mr. FRANTZ. Mr. Chairman, you have to—the question can only be answered in context.

Mr. STEARNS. Well, based upon what your opening statement is, it appears that for other loans in the future you will subordinate again. Is that true?

Mr. FRANTZ. Your staff has the detailed memo to this effect.

Mr. STEARNS. No, but the point is——

Mr. FRANTZ. We felt that it was—our view and our position is that that language pertains to the origination of the transactions——

Mr. STEARNS. OK.

Mr. FRANTZ [continuing]. Not to projects which are in distress in extremis——

Mr. STEARNS. So what you are basically saying is, you are interpreting the word "is," the meaning and tense of the word "is." The obligation is not subordinated to other financing. You are saying "is" applies only at the beginning and does not later on. So your interpretation of the word "is" is the focus of your interpretation.

Mr. FRANTZ. As my older son, who is an attorney, constantly reminds me, I do not have a license to practice law, Mr. Chairman——

Mr. STEARNS. No, I understand.

Mr. FRANTZ [continuing]. So I can only rely on the civil service professional legal staff that is——

Mr. STEARNS. OK.

Mr. FRANTZ [continuing]. Advising the program.

Mr. STEARNS. But your legal staff is making the decision on the word "is" and the tense, being it is OK later on but not in the beginning.

Do you intend to continue to subordinate other loans? Just yes or no.

Mr. FRANTZ. Again, I can only—it has to be done in context. It is a tool of last resort on——

Mr. STEARNS. You need to have this continued ability? That is what your argument is this morning.

Mr. FRANTZ. Yes, yes, I do. Very definitely we do, because if a project is in distress, we want the opportunity to save the project so that——

Mr. STEARNS. Well, if this is true, have you subordinated any other loans? Have you subordinated any other loans?

Mr. FRANTZ. Not to my knowledge, sir, at all. And we hope not to have to do it. As I emphasized in my comments, it is a tool of——

Mr. STEARNS. Are there any other loans out there that you are considering?

Mr. FRANTZ. Not to my knowledge this morning.

Mr. STEARNS. Well, you subordinated Solyndra, and how did that work out?

Mr. FRANTZ. Well, again, in time——

Mr. STEARNS. It didn't work out.

Mr. FRANTZ. I think hindsight is always more——

Mr. STEARNS. OK. Mr. Whitfield asked——

Mr. FRANTZ [continuing]. Valuable than foresight.

Mr. STEARNS. The question was asked, how much money will taxpayers get because of Solyndra? Your answer was you didn't know. Can I tell you what the answer is going to be? They won't get anything more until $75 million of the two hedge funds that you subordinate get theirs first. Isn't that true?

Mr. FRANTZ. As I have expressed, I don't have the details in front of me in terms of the precedent for each of the disbursements.

Mr. STEARNS. I don't understand. You work for the administration. They have publicly announced that they don't think taxpayers will get one thin dime back. Haven't you heard their arguments?

Mr. FRANTZ. Well, but, I mean, the final settlement hasn't been done. It is still in investigation and discussions, sir.

Mr. STEARNS. Don't you agree that the loan guarantee program has had a tough record?

Mr. FRANTZ. Quite to the contrary, sir. I think it——

Mr. STEARNS. OK. All right.

Mr. FRANTZ [continuing]. Has been an enormous success.

Mr. STEARNS. OK. We have Solyndra. We have Beacon. The third recipient went bankrupt in 2011. That is true, isn't it?

Mr. FRANTZ. It is.

Mr. STEARNS. OK. The fifth DOE loan went bankrupt just a few weeks ago. Isn't that true?

Mr. FRANTZ. We have third—two projects.

Mr. STEARNS. No, I am asking the questions. Please. Isn't that true?

The second recipient of a loan guarantee, First Wind, has withdrawn its IPO and has significant debt. The fourth recipient, Nevada Geothermal, was also the recipient of a going-concern letter from its auditor. Three of the first five are bankrupt, and the other two seem to have significant problems.

What do these loan guarantees say about the loan guarantee program portfolio, based upon what I just told you?

Mr. FRANTZ. Well, I can give you the numbers, sir. The losses——

Mr. STEARNS. So you feel they are strong?

Mr. FRANTZ [continuing]. On disbursed funds represent 2.59 percent, and that includes a recovery that we obtained 70 cents on the dollar for the Beacon project.

Mr. STEARNS. You feel the future loan guarantees are going to be strong and there will be no more bankruptcies?

Mr. FRANTZ. I cannot guarantee that, sir. I think the point is that in this space there is a high risk in the employment of new and innovative technologies. And that, in fact, was accommodated by the $10 billion that Congress authorized for us for our loan loss reserves.

Mr. STEARNS. Mr. Chairman, my time has expired.

Mr. UPTON. Thank you.

At this time, I recognize the gentleman from Michigan, Mr. Dingell, for 5 minutes.

Mr. DINGELL. Thank you, Mr. Chairman.

I would note that in the fall when we had our earlier hearings, we didn't have the Department of Energy here when we needed them. Today we need the Department of Treasury, and we don't have them. It is kind of a curious mix. And we do need the Treasury to discuss the questions we are discussing today.

I note, just by way of history, that seven of the leadership on the majority side of the aisle supported the legislation. Seventeen of my Republican colleagues voted for it, and I did too. I still think it is a good idea.

Having said this, I would like to address this question. Now, it is not proper to subordinate U.S. interests to those of other lenders under the legislation in the initial loan or loan guarantee. Is that right?

Mr. FRANTZ. Correct, sir.

Mr. DINGELL. OK. But you do need the authority to subordinate in the event that the company gets into trouble?

Mr. FRANTZ. Yes, sir.

Mr. DINGELL. Because at that point you have to refinance, and it is pretty hard to refinance and bring in a new investor unless he knows that his money is going to be as safe as it can be. Is that right?

Mr. FRANTZ. Yes, sir.

Mr. DINGELL. All right. So this is an essential tool in avoiding bankruptcy and avoiding seeing the company go under. Isn't that right?

Mr. FRANTZ. That is always our hope, sir.

Mr. DINGELL. It is a standard tool that has been used going right back to the beginning of the financial world. All right. Now, so it is not unusual to have, then, the financing, the new financing, take precedence over financing already in place. That is a standard practice in the financial industry. Is that right?

Mr. FRANTZ. Yes, sir.

Mr. DINGELL. All right. Now, will this legislation, then, jeopardize future or current DOE loans, and will it make it impossible for there to be a proper restructuring of a loan?

Mr. FRANTZ. We are of that opinion, yes, sir.

Mr. DINGELL. OK. Now, in your opinion, does the Department of Treasury have the current expertise to review the technology that would be developed under a section 17 loan?

Mr. FRANTZ. Congressman, it is not a perfect——

Mr. DINGELL. No, the answer is that they don't have that skill, do they?

Mr. FRANTZ. They have——

Mr. DINGELL. But you folks at DOE do. Isn't that right?

Mr. FRANTZ. We have particular expertise, and they do, and they are complementary——

Mr. DINGELL. Right. So we need we need DOE to tell us about the technical questions, and we need the Treasury to tell us about financing.

Mr. FRANTZ. Yes, sir.

Mr. DINGELL. But we don't have the Treasury here.

Now, in your time as Acting Director of the Loan Programs Office, have you received any political pressure from the White House to approve a loan your office deemed not qualified for a loan?

Mr. FRANTZ. No. Emphatically no, sir.
Mr. DINGELL. And you understand the question?
Mr. FRANTZ. Yes, sir.
Mr. DINGELL. And you stand on your answer?
Mr. FRANTZ. I do, sir.
Mr. DINGELL. All right. How many pages of documents has the Department of Energy turned over to this committee?
Mr. FRANTZ. Thousands, I am sure, sir. I don't have the number in front of me.
Mr. DINGELL. Have you rejected the turnover of any documents?
Mr. FRANTZ. To the best of my knowledge, we have tried to fully cooperate with your committee here, sir.
Mr. DINGELL. Were the documents turned over on a voluntary basis or were they subpoenaed?
Mr. FRANTZ. I can't answer that question.
They were voluntary, I am told.
Mr. DINGELL. Thank you.
Well, now, I note, Mr. Chairman, that we have now the expertise of a witness down there that you called, in which he points out that this sets a bad precedent and it has the potential for further jeopardizing taxpayer funds.
So let me just ask, if one of these companies to which you have a loan guarantee gets into difficulty, if this legislation goes into place, you wouldn't have the capacity to negotiate a restructuring of the entity in such way as might make it possible to save it; is that right?
Mr. FRANTZ. That is my assertion, sir.
Mr. DINGELL. Because you wouldn't be able to draw additional investors in to help save the public's investment and to keep the jobs and other things that are necessary.
Mr. FRANTZ. Yes, sir, that is our interpretation.
Mr. DINGELL. All right.
Now, there were some bad decisions, I think, made and misinformation in the case of Solyndra. But not every application for a DOE loan is like this.
And could I ask you this question. Since this big fuss started about Solyndra, have you folks down there at DOE reviewed and corrected the problems that you found with regard to Solyndra? Just yes or no.
Mr. FRANTZ. Yes, sir.
Mr. DINGELL. All right.
So the legislation before us today proposes to give new authority to the Treasury Department, but I note we have no witnesses or representatives from the Treasury here. Before we go forward in this, we ought to hear from the people who have the financial expertise of addressing this.
Now, I am a strong proponent of oversight, and I think that we do need oversight. And I would note that, as the chairman of both the Energy and Power Subcommittee and the full committee and as the chairman of the Oversight subcommittee, I did an awful lot of investigation. We pulled a lot of folks from both administrations, Republicans and Democrats, in, and we pulled the skin off them. But we did a careful job of seeing to it that we got the facts and we got the witnesses that we needed to tell us what was going on.

I see none of that happening today. And I think that if the committee really wants to do a good job, we ought to proceed in that direction so that we can be proud of what we are doing, rather than having to walk shamefacedly out of here and say, well, we screwed up.

I yield back the balance of my time.

Mr. UPTON. I might say, Mr. Dingell, that we did invite witnesses from the Treasury Department, and they respectfully declined to be here.

Mr. DINGELL. Well, I have been a member of this committee for a long time. When you invite somebody, they come, and if they don't, you have ways of getting them up here. I was always able. If the gentleman doesn't know how to do it, I will be glad to assist him.

Mr. UPTON. Well, maybe we can meet with you as soon as this meeting is over.

Ms. DEGETTE. Mr. Chairman, just for the record, we did invite members of the Treasury Department. They couldn't come on the day, which was a couple of days after we asked——

Mr. UPTON. Well, the fact is we did invite them.

Ms. DEGETTE. Yes, but we could have scheduled them to come a different day.

Mr. UPTON. At this time, I recognize the gentleman from Texas, Mr. Barton, for 5 minutes.

Mr. BARTON. Well, I just know I am glad to be here. And I was invited, and I did accept.

This should be a solutions hearings. I don't think anybody on either side of the aisle thinks that the Solyndra loan program, regardless of the political debate, thinks that the Solyndra loan program has been run very efficiently, to be as mild as possible. And the draft bill that Mr. Stearns and Mr. Upton have put out is an attempt to address legitimate concerns about preventing future Solyndras from happening. It is not a perfect bill, and the reason we are having a legislative hearing is because Mr. Upton and Mr. Stearns want to go through the regular order. We can debate the political issues ad infinitum, but at some point we should focus on solutions to protect the American taxpayer in the future.

My first question: We have the Deputy Assistant Secretary for Energy Efficiency, Dr. Hogan. But my understanding is you are not here to talk about the Solyndra bill; you are here to comment on Mr. Bass' bill. Is that correct?

Ms. HOGAN. That is correct.

Mr. BARTON. Have you been authorized at all to comment on the Solyndra, or are you just here for Mr. Bass' bill?

Ms. HOGAN. I believe we have Mr. Frantz here to discuss the loan guarantee program, as that is his area of expertise.

Mr. BARTON. Well, I know Mr. Frantz has been discussing it.

But you are a career civil servant, is that not correct, Mr. Frantz?

Mr. FRANTZ. Yes, sir.

Mr. BARTON. And at least theoretically, you are not supposed to be political. Is that not correct?

Mr. FRANTZ. That is absolutely correct.

Mr. BARTON. So you really don't speak for the Obama administration, do you?

Mr. FRANTZ. I speak as a civil servant, sir.

Mr. BARTON. As a civil servant. And I understand that.

My first question on policy is going to be on subordination. Mr. Dingell and I were on the conference committee when we passed the Energy Policy Act. I was the chairman and he was the ranking member of this committee. And we didn't put a lot of debate into this particular part of the bill, but it was clear that we put the subordination language in to mean exactly what it says; you don't subordinate. There has never, until this loan, been a taxpayer-backed loan that was subordinated. And if I and others on the committee have anything to do it, there never will be again.

When you, Mr. Frantz, say that, well, in extremis you may do it, that is taxpayer money. In the private sector, when you subordinate, you subordinate private-sector dollars that are at risk that investors have put forward. In the public sector, these are taxpayer dollars. You put subordination language in because you do not want to subordinate, period. There are no exceptions.

And there is no outside legal opinion that has ever been rendered on this loan that says it is appropriate. You have an email from an attorney at the law firm that is general counsel to Department of Energy where an attorney in an email says, well, maybe it is OK. You don't have a written legal opinion from an outside counsel that is signed on the letterhead by the senior partner. You do have a DOE general council memorandum that is about as tortuous as it is possible to be.

So I would hope on a bipartisan basis one thing we can agree on is that we are not going to allow subordination. And I hope we put some penalty—one of the reasons you guys got away with it is there is no penalty. There is no penalty. I guarantee you, if you as a loan program officer had been subject to a $50,000 fine, you know, you might have thought twice about agreeing to subordination.

So don't insult the common sense of the American people. We knew what we were doing on subordination, we put it in the plain English language, and you violated it. That is wrong. And we ought to be able to stop that.

Now, on the general loan program, I happen to agree with what Ms. DeGette said, and Mr. Dingell and Mr. Waxman. I don't think we need to throw out the whole program. I think we can clean it up. I think we can make it more transparent. I think that we can put some penalties in, put some caps, you know.

So I guess, even though you are a career civil servant, you are here for the Department of Energy. Does the Department of Energy continue to support that there be a loan program for alternative energy projects? Do you support it or not support it?

Mr. FRANTZ. We absolutely support the——

Mr. BARTON. You do support it. Do you also, then, support some reforms to make sure Solyndra does not happen again?

Mr. FRANTZ. To answer that question, we are constantly working on the program, Congressman——

Mr. BARTON. So you do support some reforms to the program.

Mr. FRANTZ. Certainly, we do.

Mr. BARTON. All right.

Mr. FRANTZ. And I offered that in my oral testimony.

Mr. BARTON. I am sorry, Mr. Chairman. My time has expired, but I yield back.

Mr. UPTON. At this time, I recognize the gentleman from California, Mr. Waxman, for 5 minutes.

Mr. WAXMAN. Thank you, Mr. Chairman.

Mr. Frantz, I want to ask you about the Republican loan guarantee bill. This bill doesn't end the loan program, that loan guarantee program. Under this proposal, billions of dollars in new loan guarantees can be issued in the coming years. But this bill prohibits DOE from considering any new applications for loan guarantees. It freezes those that can be considered by—those who came in and applied by the end of 2011.

Well, that is an arbitrary decision of picking winners and losers. It creates a winners list, potentially, of a few dozen projects that were submitted before the end of 2011. Those are the only applications DOE can look at. Everyone else, no matter how groundbreaking or promising their technology, loses.

This program was created to support innovative energy technologies. That is its whole purpose. But under the Republican bill, new breakthrough technologies need not apply. Is this the right way to structure the program if we want to support innovative energy technologies?

Mr. FRANTZ. It certainly is not. As I indicated in my oral testimony, Congressman, we feel that it would preclude us from proceeding on new and innovative technologies particularly in the fossil area, as well as the nuclear, and new renewable applications, other than those that we have already received.

Mr. WAXMAN. I want to understand the practical implications of this bill. If someone develops a new technology this year that dramatically reduces the cost of solar or wind or geothermal power and they submit a new application, can DOE award them a loan guarantee under this bill?

Mr. FRANTZ. We could not.

Mr. WAXMAN. Even the technologies that Republicans claim to support are abandoned. We keep hearing about the importance of innovative coal and nuclear technologies. Mr. Frantz, earlier this week, the committee received testimony from a research administrator at West Virginia University emphasizing the importance of loan guarantees for advanced coal technologies.

Mr. FRANTZ. Uh-huh.

Mr. WAXMAN. Let's say an electric utility submitted a new application for a power plant that utilized a better, cheaper carbon-capture technology. Under this bill, could DOE consider that technology for a loan guarantee?

Mr. FRANTZ. We could not.

Mr. WAXMAN. And if an application for a small, modular nuclear reactor or next-generation nuclear plant is submitted, DOE is required to reject it; is that right?

Mr. FRANTZ. That is correct, sir.

Mr. WAXMAN. And instead of considering the new technology, DOE would have to dig through the pile of nuclear reactor applications that were submitted by the end of last year; is that right?

Mr. FRANTZ. Correct, sir.

Mr. WAXMAN. And so the Republican proposal is to prohibit DOE from considering any new applications for new technologies.

DOE currently has the authority to issue tens of billions of dollars in loan guarantees for innovative fossil fuel projects, uranium enrichment projects, other nuclear projects, and renewable energy. Is there any public policy reason to think that the applications already submitted are the perfect projects and that there are no new ideas out there that will be worth considering in the years to come?

Mr. FRANTZ. No. We agree, sir.

Mr. WAXMAN. This Republican bill, it seems to me, is a terrible idea. It is just the latest Republican assault on clean energy. It provides no answers to our energy challenges. It would stifle innovation instead of boosting it.

Now, Mr. Barton made a whole big to-do, very passionate, that we should not allow subordination of these loans. What is he talking about when he talks about subordination?

Mr. FRANTZ. Well, the subordination question is raised in the context, in our opinion, only and exclusively in projects that are in severe distress in which we are trying to attract and save the project for the U.S. taxpayer.

Mr. WAXMAN. So you look at a proposal for a loan guarantee, it looks like it has a lot of promise, it looks like the business is sound enough to succeed, and you give them a loan guarantee, which means if they can't pay their loans, the government is going to pay for their loan.

And then they run into financial problems, such as their competitors suddenly drop their price, and so even if they come up with this new way of providing this technology, they are not going to be economically viable. Is that the kind of situation we are talking about?

Mr. FRANTZ. Yes, sir.

Mr. WAXMAN. And it looks like there is some way they can still succeed, but they need more money. And they go out and find lenders. Is what Mr. Barton is objecting to the government standing behind those additional loans?

Mr. FRANTZ. Well, I think, again, for the general benefit of the entire committee, Congressman, I think it is an excellent question. The point is that this is a tool that we would employ in the last resort. Even in the negotiations in restructuring, this is not something that we would, and do, take lightly. It is a tool that is used in extremis. And it is only used after we have failed in negotiations to attract other investments to save the project without using it. It is the last thing we would do.

Mr. WAXMAN. So it is the last thing you might do to save a project. And if you can't do that and save the project, then the taxpayers have to come up with the money for the loan guarantee?

Mr. FRANTZ. Yes, sir.

Mr. WAXMAN. So you either try something out to succeed or just let all the lawsuits roll?

Mr. FRANTZ. In my oral testimony, that was the assertion I made, that you would be hamstringing us and taking a very important, critical tool that could, in fact, save taxpayer money.

Mr. WAXMAN. Thank you.

Thank you, Mr. Chairman.

Mr. UPTON. The gentleman's time has expired.

At this time, I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman.

Mr. Frantz, thank you for your service. As a veteran, I appreciate that.

And it is very frustrating for me when sometimes I have to agree with Mr. Waxman on some of his points. And I start worrying about my district and what is going on here in the water in Washington.

But a couple concerns is, I did vote for the 2005 Energy Policy Act which had this provision in it. I side also with Chairman Emeritus Barton, in that we just have to be careful of throwing out the baby with the bath water.

But the Congress has changed significantly. And the whole loan guarantee issue, with the new federalism and deficits and debts, there really is a debate, is it the government's role? And if there is, as Mr. Waxman said, a new technology—I am a big coal guy. There is no current technology for carbon capture and sequestration. I don't believe there ever will be, economically feasible. That is the whole climate change debate. But if there was, why wouldn't the private sector return on the investment, assume the risk? And that is this whole debate.

Now, I guess the other concern that those of us who haven't spent all the time that the O&I committee has on this stuff—I chair the Environment and the Economy Subcommittee; I do a lot with nuclear waste. I see too many times where I believe the administration—the language of the law is black and white, it is on paper. And so this subordination issue really has us concerned.

And to the authors of the legislation, if we don't ever want to subordinate anything else again, should they, then, adjust the language of the legislation to say, if it is a failed loan provision, you really, really can't subordinate? I mean, that is what you are saying, because you have used—I am not a lawyer, and I know you shop around and try to find a lawyer that may then give you some impetus to do this. But I think this subordination issue does have traction with the American public. They wonder how it was done with the clear, concise aspects of law.

And I am going to yield my time, but I want to go to Ms. Hogan for just 1 second.

In part of your statement, you talk about—and this is the vehicle—you talked about electric vehicles and all this stuff. And I just want to make sure that people understand, you have electricity that is cheaper, but you never—what people have to understand is that, to use electric vehicles, you have to generate electricity. And there are varied prices for purchasing electricity per kilowatt hour from, you know, nuclear power being cheap now, coal being cheaper; wind, solar, expensive. So high-cost electric vehicles based upon charging capacities on green power is more expensive than traditional major generation. And you should have that as part of the analysis.

Now I yield the remaining time to Mr. Griffith from Virginia.

Mr. GRIFFITH. Thank you, Mr. Shimkus.

Here is the bottom line. The common language of the land is English. "The obligation shall be subject to the condition that the obligation is not subordinate to other financing." Your counsel dances around it and says the word "is" makes it only apply for those 5 or 10 minutes during the closing, or hour during the closing, and immediately after that, not when the loan is in distress. If you read her opinion, footnote 2 makes it clear that you don't have to be in distress; the Secretary can do it anytime. But that is inconsistent with other provisions of the law, as well.

First, in this particular case with Solyndra, the AG was not notified as I believe, in reading the common English language, they should have. But your counsel dances around that, too, and says that not withstanding the fact they were in default, it wasn't a payment default, it was another kind of default.

And last but not least, when you start looking at what the Secretary's powers are under 1702(g)(2) and you look at (g)(2)(B), it says, plain English, "The rights of the Secretary with respect to any property acquired pursuant to a guarantee or related agreements shall be superior to the rights of any other person with respect to property." That section makes no sense if you can subordinate anytime you want to.

And further, I would submit to you that when Solyndra went into default in September of 2010, Secretary Chu testified to the O&I Committee under oath that he knew in December, he knew in February when this loan was subordinated, that the Chinese could sell their product cheaper than Solyndra could make it. Where were we looking out for the taxpayers of the United States of America? I submit to you we were not; wouldn't you agree?

I yield back.

Mr. UPTON. Did you want to reply, Mr. Frantz?

Mr. FRANTZ. When we conducted our due diligence, as I have indicated without being defensive at all, hindsight is always much more valuable than foresight. At my level and the staff level, we were taken completely by surprise. Clearly, in hindsight, the Solyndra transaction was very appropriate in that time, in that place; given what we now know, we would not—we would obviously not have proceeded with the transaction.

Mr. GRIFFITH. Even the subordination?

Mr. FRANTZ. The subordination—again, in context, respectfully, Mr. Congressman, the subordination is a tool that we would use only under extremis. It is not something that we would glibly or cavalierly use at any instant. It is only to save U.S. taxpayers' dollars in the last resort.

Mr. UPTON. The gentleman's time has expired.

At this time, I recognize the gentlelady from California, Ms. Capps, for 5 minutes.

I am sorry, I have been told that it should be Ms. Schakowsky of Illinois for 5 minutes.

Ms. SCHAKOWSKY. Thank you, Mr. Chairman.

Mr. Frantz, I wanted to ask you a few questions about the DOE's response to the recommendations of Herb Allison, the independent consultant brought by the White House to review the loan guarantee program. As you know, Mr. Allison's credentials and impartiality are well-known. He previously served as the Assistant Sec-

retary of the Treasury for Financial Stability and as the national finance campaign chair for Senator McCain's Presidential campaign.

He produced a serious report with constructive recommendations. His report, by the way, found that the DOE loan portfolio as a whole was strong and that the program was largely working as planned. But Mr. Allison also suggested that DOE place more emphasis on proactively protecting taxpayer interests and establish a comprehensive early-warning system for loans that may be in trouble.

So I wanted to ask you, what types of improvements? We have talked a lot and you have said that you have done that, but what types of improvements has the program made in these areas?

Mr. FRANTZ. Thank you very much, Congresswoman. That is a very good question.

I would first, at the top of the ledger, indicate to you and to the full committee that the Department of Energy is in the process of virtually implementing all of Mr. Allison's recommendations as they might appropriately be done just as quickly as we can. So that is in place.

With respect to your specific question, we were very blessed, quite frankly, with a program of attracting Frances Nwachuku from the U.S. Ex-Im Bank, who had years of experience in managing their portfolio. She is our director of portfolio management for the program. With her she imported over systems that were already decades tried and true and proven from the Em-Im experience, as well as those that we obviously operated at OPEC, as well, given my background.

There is a total watch system that is in place, what we call a—you know, an oversight that involves weekly interface with all of our projects and their sponsors. It is now in the process of being fully systematized and will be completed by the end of this fiscal year. There are monthly reports. We have our independent engineers in the field on these projects on a monthly basis.

So all of the best practices in the industry are being employed by our program in terms of portfolio management. And all of them were very consistent with Mr. Allison's views and oversight.

Ms. SCHAKOWSKY. So this would include setting very specific benchmarks, as well, for these kinds of applications?

Mr. FRANTZ. Yes, ma'am. We do.

Ms. SCHAKOWSKY. OK. What about the internal management and reporting structures in the Loan Programs Office? Have these changes been made yet?

Mr. FRANTZ. We are in the process of making them. They will be completed by September 30th. We will have a state-of-the-art system comparable to all the U.S. governmental agencies by that date. The system is up and running, and we are right now migrating all of the information into this single system of information retrieval.

Ms. SCHAKOWSKY. So you are saying if you came back on September 30th, you would be able to report that all of these systems are now in place and operating?

Mr. FRANTZ. Yes, ma'am, that is our—I hope I will be able to. That is our objective.

Ms. SCHAKOWSKY. Thank you.

Mr. Chairman, I think we both agree that the mission of the Loan Programs Office is an important one, and I think that is why the discussion draft before us today does not eliminate the program, I am happy to say.

It is clear to me, however, that this legislation is poorly crafted, as has been pointed out, in terms of the benefit to the taxpayers, as well. And I don't think the legislation before us is a serious attempt, or at least an adequate attempt, to improve the DOE loan guarantee program—which it is my understanding, Mr. Frantz, from your testimony, is, in fact, implementing the improvements that have been recommended.

So we need to do better; everyone agrees with that. And I hope that we can work on a bipartisan solution to help protect taxpayers and advance the goals that we all share.

I yield back.

Mr. UPTON. Thank you.

At this time, I recognize Mr. Terry for 5 minutes.

Mr. TERRY. Thank you, Mr. Chairman.

And, Mr. Frantz, as the gentleman from California, Mr. Waxman, ranking member, had mentioned when he was discussing the issues with you, that the proposed bill would allow all those that are in the pipeline to go forward but that the loan program, 1705, would cease after that. That is how you read the bill, as well?

Mr. FRANTZ. Yes, sir. We would not be able to receive new applications other than those that——

Mr. TERRY. And Mr. Waxman suggested that that is picking winners and losers. Do you agree with that?

Mr. FRANTZ. I am not sure. There might be a non sequitur. My view is that—which everybody I think here acknowledges—we are not clairvoyant enough to know the new technologies that might be right around the corner that would need some——

Mr. TERRY. So do you agree that that is a fair statement, that the bill is picking winners and losers?

Mr. FRANTZ. It would certainly preclude us from having an open forum for the projects, that is for sure. All we would have——

Mr. TERRY. For new projects. OK.

Mr. FRANTZ. If it is picking——

Mr. TERRY. So would it be fair, then, if we are talking about fairness, to just eliminate all of the current ones that are in the pipeline, just to die going further on those?

Mr. FRANTZ. No, no. I——

Mr. TERRY. But then you are not picking winners and losers.

Mr. FRANTZ. No, I think the ones that are in the pipeline, as we have indicated, we are in the process of reviewing those that did not make the deadline of September 30th. There are some very viable——

Mr. TERRY. But if there is unfairness to that—and you didn't say to Mr. Waxman there would be any unfairness to not going forward. I mean, he accused us of being unfair.

Mr. FRANTZ. No, I think the point is—and it is in my oral testimony; I mentioned it——

Mr. TERRY. OK.

Mr. FRANTZ [continuing]. I think we have——

Mr. TERRY. Well——

Mr. FRANTZ [continuing]. Serious concerns if there is a sunset date of December 31st, 2011, because that will preclude all new——

Mr. TERRY. Well, let's talk about——

Mr. FRANTZ [continuing]. The implementation of all new technologies.

Mr. TERRY. But DOE's authority to issue loan guarantees under 1705 expired after September 30th, 2011.

Mr. FRANTZ. That is correct.

Mr. TERRY. And there are several that are in the pipeline that were filed before then, and you are going forward, correct?

Mr. FRANTZ. Yes, sir. And the point is they are 1703——

Mr. TERRY. And you were allowed to follow through on those if they had, quote/unquote, "commenced construction."

Mr. FRANTZ. Well, we are——

Mr. TERRY. Correct?

Mr. FRANTZ. Not necessarily. These are projects that were 1703-eligible. And there was no sunset date on the 1703——

Mr. TERRY. So, basically, then, you took some of those programs and switched some of them from 1705 to 1703?

Mr. FRANTZ. Yes, sir, as long as they are eligible. And remember——

Mr. TERRY. But in 1705 in the last 3 weeks before September 11th, 2011, there were $10 billion issued to projects. Is that correct?

Mr. FRANTZ. I don't remember the exact number, but——

Mr. TERRY. Well, maybe your staff guy that helps you out behind you could help you out.

Mr. FRANTZ. Well, in all fairness, sir, if you will permit me, I submitted to your staff when I gave my private testimony, my private interviews, that all of the projects that were concluded under the 1705 2011 deadline experienced due diligence periods. The median was 320 days—320 working days. Every single one of those projects.

Mr. TERRY. Well, I am talking about——

Mr. FRANTZ. So there was no rush to judgment. We were able to do it in a——

Mr. TERRY. DOE approved——

Mr. FRANTZ [continuing]. Very deliberate and responsible way.

Mr. TERRY. True or false, DOE approved almost $10 billion in projects in the last 3 weeks of the program?

Mr. FRANTZ. I don't remember the exact number, but I can assure you that the due diligence reflects the analysis that I provided.

Mr. TERRY. Well, did all of those—since you are saying—you are not saying "yes" or "no," so it is hard for me to go forward. Did all of the projects that were "commence construction" by September 30th, all of those that were funded within the last 3 weeks?

Mr. FRANTZ. They did, according to our guidelines.

Mr. TERRY. All right. And how does DOE define "commence construction"?

Mr. FRANTZ. I don't have the precise language in front of me, but we can get that for the record for you, sir.

Mr. TERRY. OK. I would appreciate that.

[The information follows:]

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The exact words of the definition evolved somewhat as the program evolved, but the basic principles remained constant. Under those principles, Commencement of Construction has occurred if: (i) the Borrower has begun physical work of a significant nature (Physical Work) on the Project and (ii) with respect to such Physical Work, the Borrower has (a) completed all pre-construction engineering and design, (b) received all necessary licenses, permits and local and national environmental clearances and (c) engaged all contractors and ordered all essential equipment and supplies that, in each case, are reasonable necessary to begin such Physical Work and proceed to completion of such Physical Work without foreseeable interruption of a material duration.

Mr. TERRY. And then, of the approximately $10 billion that was authorized in the final weeks before the stimulus deadline, how much has been drawn down? Do you have those numbers.

Mr. FRANTZ. The actual loans outstanding right now that are active are $23,353,690,276—I beg your pardon——

Mr. TERRY. OK.

Mr. FRANTZ [continuing]. Yes, that is it.

Mr. TERRY. Now, that has been drawn down?

Mr. FRANTZ. Well, let me get that number for you for the record. We can get it pretty quickly.

Mr. TERRY. Yes, I think that would be appropriate.

[The information follows:]

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As of November 2012, approximately $2.1 billion has been drawn down.

Mr. TERRY. And then what I am also curious about is, are any of the loan guarantee recipients who are not currently drawing funds due—are any of those that received in the last 3 weeks, have they missed any deadlines or milestones.

Mr. FRANTZ. No, not to my knowledge.

Mr. TERRY. All right. My time is up.

Mr. UPTON. Thank you.

At this time, I recognize the gentlelady from California, Ms. Capps, for 5 minutes.

Mrs. CAPPS. Thank you, Mr. Chairman.

I am glad the committee is seeking to advance bipartisan legislation on energy efficiency through one of the topics we are considering today, the Smart Energy bill. And one of the important advantages of energy efficiency is that it spans all the regions of the country, and regardless of what energy source you support, efficiency is the cheapest, fastest way to address our energy needs.

And we know that energy efficiency efforts lead directly to jobs created, which we know also is very important, especially now at a time when the economy is still struggling. The other important aspect of energy efficiency is that these technologies are all readily available. We don't have to wait on some new, magic technology. We can take advantage of the existing ones that we know about right away.

So there is tremendous potential for this committee to take action on energy efficiency and to help our constituents save money, and that is why I am pleased with the legislation that has been proposed. And that is really what this is all about.

I thank the witnesses, both of you, for your testimony today.

And, Dr. Hogan, I want to talk with you about improving efficiencies in our homes. I went through a project on my own home in Santa Barbara, California, about a decade ago, and now I have started the process to complete another upgrade. This time, I have the advantage of an energy audit of my home, which is part of a county or locally based incentive structure, and it uses a local veteran-owned small business which comes through and then recommends energy-saving projects.

I believe there is a tremendous amount of potential with programs designed to encourage homeowners—well, any building owner to make upgrades. And we actually need to have this done on a regular basis as new technologies become available. This is countless jobs you can think of. It will also help to jump-start a whole industry for home energy retrofits.

So, Dr. Hogan, can you describe for us what the Department is doing with home energy efficiency? And maybe you can give us a status update on the home energy scoring systems that are now available.

Ms. HOGAN. Yes. Thank you.

So, truly, there is a tremendous amount of savings that can be delivered to homeowners in their homes through energy efficiency. There are opportunities of 10 to 20 percent savings on the average home energy bill; average home energy bill being, you know, for the average home, $2,200 or so. So that is, sort of, $400 a year that is really out there for almost each and every family in an older

home. And so the Department of Energy, the administration, has been very focused on these opportunities for many years.

One of the areas where we are working very closely with a number of organizations across the country is something called the Better Buildings Neighborhood Program, where we are working to pilot programs that can really take home retrofits to scale. Some of the programs of the past have been slow to get traction in the marketplace, because you need a homeowner to want one and you need the delivery system to be able to come in and provide, you know, high-quality audits and then follow through on the projects.

So it is because of that that we are doing things like the program that you just mentioned, the home energy score. We see that as a great way to bring homeowners information on the efficiency on their home, whether it is highly efficient or very inefficient, and to give them objective, credible information on the low-cost things they can do to improve their home, such as added insulation, home sealing—the things that are very low-cost but can get them a good portion of those energy savings that are there to be gotten.

We are also working to pilot that program across the country with 20 or so partners, looking to refine it over the next year, and then being able to offer it up much more broadly around the country after that.

Mrs. CAPPS. Thank you.

I just wanted to get in to underscore what you have been describing, and this is a company, but I want to share a story about a company in my district. It is called Gills Onions. Any kind of onions you eat with your hamburger next time probably came from this company. They grow, cut, and process a lot of onions.

But the company is also known for its technology to produce energy from onion waste, and they use that electricity to run their operations. They are totally self-sufficient. This company used some Federal grants to design and build this project. They have also partnered with another company, PrudentEnergy, to develop a battery system that will allow Gills to store some of the electricity that is extra and use the power in peak hours when electricity costs the most.

Gills uses a lot of power for their equipment and their refrigeration. So a project like this makes a lot of sense to them, and it could lessen costs by hundreds of thousands of dollars a year. It is a big deal. And I think it is a good example of local economic development. You can talk about the home use, you can talk about companies using innovation and technology to help them with their bottom line but also to create jobs, and we can help businesses this way.

I have—oh, I have already overused my time. I will take your nods as that you agree.

Thank you.

Mr. UPTON. Thank you, Ms. Capps.

At this time, I recognize the gentleman from Pennsylvania, Mr. Murphy, for 5 minutes.

Mr. MURPHY. Thank you.

Mr. Frantz, is it your testimony that loans that closed in September of 2011 have not missed any milestones?

Mr. FRANTZ. I beg your pardon, Congressman?

Mr. MURPHY. Is it your testimony that loans that closed in September of last year, 2011, have not missed any milestones?

Mr. FRANTZ. We have milestones, some of them have, in the manufacturing space. And we are working with them to——

Mr. MURPHY. Have they missed them? Specifically, Amp. Has Amp missed some of its milestones?

Mr. FRANTZ. We haven't funded Amp yet. Amp is not even—we haven't even funded that project.

Mr. MURPHY. Can you get us a list of all the loans that are pending?

Mr. FRANTZ. Certainly, we can do that, sir. I will do it for the record.

[The information follows:]

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The following applications are at various stages of the due diligence process:

Sector	Applications
Biomass	6
Energy Efficiency	1
Fossil	6
Geothermal	3
Nuclear Front-End	2
Nuclear Generation	11
Solar Generation	5
Solar Manufacturing	6
Wind Generation	5

Mr. MURPHY. Do you have any closings scheduled for this year?
Mr. FRANTZ. None right now, no, sir.
Mr. MURPHY. None at all? OK.

You know, I get concerned here because this loan program is one where I hear folks all over the place talking about subsidies as picking winners and losers. I think there is a difference between doing this right and doing it wrong. You look at countries like France, subsidizes nuclear. China seems to support everything massively. And what concerns me a great deal is, families in this country have been funding OPEC to the tune of a $127 billion trade deficit where they are building palaces and we are trying to get by here.

There are so many indications that something is wrong, and what really puzzles me is, I don't get a sense yet that the loan program at Department of Energy gets it. When I look at all these programs that are failing—Solyndra, the first recipient, went bankrupt; Beacon, the third recipient, went bankrupt; Abound, the fifth DOE loan guarantee, went bankrupt a few weeks ago; First Wind has withdrawn its IPO, has significant debt; Nevada Geothermal, the fourth recipient, has a going-concern.

And when you look at the things that we have learned over time from these hearings, there were so many signs that Solyndra was having problems. All these Federal agencies and departments were saying, this is a bad investment. OMB, Treasury, Justice, DOE employees, investors in Solyndra, PricewaterhouseCoopers, Lawrence Summers, the President's economic advisor, are all saying, this is a problem.

And yet, with all of those indications, I think what could have been a loan program turned into a White House and Department of Energy earmark program, saying, we are going to do this anyway, despite all the signs that no one is going to get paid back, and then ignoring the law about the taxpayers getting paid less.

What concerns me here and the reason why we need to even look at this law is, Department of Energy is still not admitting problems, still not admitting failures in how the Department of Energy handled this, how they ignored the warnings of failure, continued on, and even when the Secretary of Energy is here, having an attitude which concerns the taxpayers, with regard to throwing money down a hole even though you knew that hole had no bottom.

If we could make a movie of how the Department of Energy is handling this, of how the Department of Energy would have a typical staff meeting to discuss all these failures on how they handled it, it would look something like this.

Would you play the clip, please?

[Video shown.]

Mr. MURPHY. I yield back.

Mr. UPTON. At this time, I would like to recognize the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman.

And I enjoyed that movie, too, but I don't know if it relates to the Department of Energy. But thank you, for my colleague from Pennsylvania.

One of the issues I think I have is that—and my colleague mentioned it—we have competition for going to more energy efficiency,

whether it be solar or wind power. And I am, frankly, successful in my part of the country, in Texas; we are the biggest growing wind power in the country. But unlike some of our competitive countries, if you do what happened with Solyndra, in some of our countries you would be taken out and shot. We don't do that in our country. We call you before legislative hearings. So I want to welcome you.

I join my colleagues on both side of the aisle in frustration and anger on the failure of Solyndra. And I have participated in oversight hearings before and was on the committee when we wrote the law that created this loan guarantee program. I remember it was under a Republican House and a Republican President that we originally authorized the program. Some of my friends and colleagues on the majority side championed these provisions. In 2005, we worked in a bipartisan manner, and we had our political fights then, too, but we worked together to actually legislate. In that spirit, I want to invite both Democrats and Republicans to work to fix this loan program. We can learn from the mistakes that we made and strengthen a program that once enjoyed broad bipartisan support.

But I cannot support the legislation just as currently drafted. It is a transparent attempt at political messaging and not a serious effort to solve the problems that allowed the taxpayers to be on the hook for Solyndra. The bill stands no chance of being taken up by the Senate or even a chance of being signed by the President. Instead, let's not waste this opportunity, and we can write a bill that fixes the program. The American people elected us to govern, and on something like this it is our obligation to find consensus and not create irreconcilable political differences.

However, partisan differences can't be solved by our witnesses, and my questions today revolve around solar panels. My goal is to do for solar what we have done in wind for our country. Like I said, in the State of Texas we have done greatly with wind, and we are going to do it with solar if we can find some State money to do it.

But, Mr. Frantz, I thank you for appearing today.

I know the DOE acknowledges some mistakes in the case of Solyndra, and one of the issues that concerned me greatly is the subordination of a loan. When we passed the 2005 energy bill, I remember the language being included saying that taxpayers' interests could not be subordinate to that of any investor. DOE did some legal gymnastics to justify under the law that to restructure loan subordination was permitted.

Mr. Frantz, what was the reason to seek outside counsel to draft that subordination memo instead of going to the Department of Justice?

Mr. FRANTZ. I can't answer your question, sir. That was handled by our chief counsel's office and the general counsel's office of the Department of Energy, sir.

Mr. GREEN. OK.

We want to avoid another situation like that we had with Solyndra. And I understand DOE believed they were doing their best to save the taxpayers money by subordinating their loan, but it turns out, in retrospect, the judgment of the agency was flawed in this regard.

Is it current policy at DOE that loan guarantees can be subordinated after restructuring?

Mr. FRANTZ. That is the position that we have taken. We hope never to have to do it. And as I have indicated in my testimony as well as in questions from the committee, it is a tool of last resort in our attempt to save taxpayers money from a pure liquidation scenario.

Mr. GREEN. Well, learning what we have learned from Solyndra, does restructuring seem like a risky bet now?

Mr. FRANTZ. I guess I don't understand your question, Congressman.

Mr. GREEN. Well, you know, we are talking about $500 million, and, obviously, we threw good money after bad. And it seems like somebody ought to say, hey, that was a bad decision we made.

Mr. FRANTZ. The decision that we took, Congressman, again, was at that time and in that place. Hindsight is always more valuable than foresight, for sure. And it was a very appropriate transaction at the time. Obviously, we would not do it again, knowing the circumstances we do, particularly in the marketplace.

Mr. GREEN. Well, my concern is that the 2005 energy bill put in there that you couldn't subordinate, and there were efforts to do that by getting some great drafted letters—and I practiced law, too—but you get three lawyers, I can get you four opinions, depending on how much you want to pay.

But I think this committee ought to work in making sure that subordination is not allowed. And I thought that is what the 2005 energy bill did, but obviously it didn't. And so that is what I would hope our legislation would be, that we make sure that the taxpayers' dollars always come first before the private investors'.

Mr. Chairman, I know I am almost out of time, and thank you for the time.

Mr. UPTON. Thank you very much.

At this time, I recognize the gentleman from Texas, Dr. Burgess, for 5 minutes.

Mr. BURGESS. I thank the chairman for the recognition.

Mr. Frantz, let's stay on the subordination issue. The Energy Policy Act of 2005, I am sure you are familiar with it because you were one of the original hires in that loan project office in 2007 to administer this program. In 1703, the clause under subordination reads, "The obligation shall be subject to the condition that the obligation is not subordinate to other financing"—a simple, straightforward statement. Even a nonlawyer like myself can understand it.

The difficulty that—and I think Mr. Green is exactly right, his line of questioning is exactly correct. But the difficulty is, then, the law does not go on to prescribe any penalties, civil or criminal, for a violation of this. So while I believe the Secretary to have been in technical violation of this passage of the Energy Policy Act of 2005, there is no penalty.

So for that reason, earlier this year, I introduced another bill, 5863, to prescribe civil monetary penalties between $10,000 and $50,000 for people who violated this statute. The bill is based on the Antideficiency Act and provides civil and administrative penalties for executive branch officials who violate appropriations bills

and has over a century of precedent. And I honestly believe this may be a better way to get at this problem.

Now, you reference that—well, actually, Secretary Chu came to our committee, and he referenced other committees that were on the watch list. Can you provide us with a list of those companies who are on the watch list? I don't expect you to have it at your immediate disposal, but will you provide that to the committee?

Mr. FRANTZ. Well, let me take that question for the record, and we will endeavor to be responsive, sir.

[The information follows:]

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Public disclosure of companies currently on LPO's Watch List would involve the release of proprietary and business-sensitive information that could adversely affect a company's financial position. However, as background information, companies may be placed on the Watch List when one or more of the following factors are present:

- Changes in the macro-economic environment, including regulatory changes;
- Changes in the business sector;
- Internal or market driven event that significantly alters the financial profile of the project company or increases cost of capital;
- Deteriorating financial profile and/or persistent operations inefficiencies;
- Significant construction delays;
- Significant issues with a major counterparty;
- Material changes in volume or quality of feedstock or production resources;
- Persistent technical difficulties with adverse cash flow impact;
- Major lawsuit judged by legal counsel to have the potential of adversely impacting cash flow;
- Loss of key management or frequent management turnover;
- Loss of material collateral or security;
- Termination/Loss of material contract;
- Significant environmental event;
- Management issues;
- Material (financially significant) product/recall or safety recall; and/or
- Occurrence of a force majeure event.

Mr. BURGESS. Well, and the reason I want you to be responsive, the reason why it is important—because, I mean, the whole purpose of this hearing is no more Solyndras; maybe it should be no more loan subordination. Are we at risk for the Department to have to look at subordinating a loan as a last-ditch effort to save taxpayer dollars, as you have described?

I want to help you here. You keep talking about "hindsight is perfect." I want to sharpen your foresight so that we can anticipate the next loan subordination activity and either have it not happen or if it does happen, make sure we follow the letter of the law, or if we don't, that people understand that there are penalties for not following the letter of the law.

Now, also on the issue of hindsight or foresight or wherever sight we are on right now, I have heard several people talk about the fact that it was the Chinese that actually sandbagged Solyndra. They dumped a bunch of stuff on the market. Do you recall that as being part of the discussion.

Mr. FRANTZ. Well, I mean, factually, it is a part of the discussion——

Mr. BURGESS. No. Factually, 4 days prior to the closing of the loan, there is an email from the energy branch chief at Office of Management and Budget—this is tab 7 in your evidence binder—there is an email from the energy branch chief at Office of Management and Budget to his immediate superior that describes the problems. He wants them to slow down. He says, "You are going too fast, you are not following the rules," and then referencing at the bottom of the email, "Chinese solar firm revises price. As prices slump, solar industry suffers. More sun for less. Solar panels drop in price because of Chinese imports."

This was known. This was not a surprise. This was not new information. Your own Office of Management and Budget was saying, we need to slow this thing down and follow the rules. But instead, it was speeded up for reasons that this committee, to the best of my knowledge, still has not been able to discern. And that is really where this whole investigation has hinged.

The administration would have done itself a favor to get out in front and be honest with the committee if this is a mistake. And we accept the fact that people make mistakes, and then we can improve our policy from recognizing those mistakes. A big mistake was made here, and then it was—you papered over it, you glossed over it, and went ahead.

Do you have any comment about that?

Mr. FRANTZ. I don't. I haven't looked at that——

Mr. BURGESS. Well, do you have the evidence binder in front of you?

Mr. FRANTZ. I do not, sir.

Mr. BURGESS. Where is—all right. We will get it for you. I would like for you to look at that while you are still here.

If I could, Dr. Hogan, I just have one question on the energy efficiency. You spoke a lot in your testimony about electric cars. And, in fact, it was kind of interesting, on the last Energy and Water Appropriations bill, there was an amendment from a representative from California who wanted—she said people suffered from range

activities in their electric cars, and she wanted to help them with that. I don't know what you do, short of a 300-mile extension cord.

But, you know, there are other technologies. And this whole concept of picking winners and losers—down in my neck of the woods, T. Boone Pickens talks a lot about using natural gas to power especially the big rigs on the road. Why would we pick electric car technology when there are competing technologies that other people are investigating? Why pick a winner over a loser in this instance?

Ms. HOGAN. First, as I said in my testimony, the Department of Energy has a full portfolio of R&D in the vehicle space. We are interested in natural gas and would enjoy having a conversation with you on that.

But as you look at the different vehicles that are out there, the different vehicles we use in our economy, from light-duty to heavy-duty, it does seem that different technologies have sweet spots in different areas.

Mr. BURGESS. And I recognize my time has expired. But the difficulty that you have is, consumers don't want what you are trying to make. And we would be far better served if we let the market absorb the appropriate signals and respond, rather than us trying to force an issue on the American people.

Mr. Chairman, in the interest of time, I will yield back. I know we have a vote pending.

Mr. UPTON. Thank you.

At this time, I will recognize the gentleman from Georgia, Dr. Gingrey, for 5 minutes.

Mr. GINGREY. Mr. Chairman, thank you.

Mr. Frantz, I know it seems like we have beat this horse to death, but I don't think quite so. So I want to go back to this issue of subordination, particularly in light of the fact that you have said repeatedly before this committee this morning that you believe that, under this loan program, you have the authority to subordinate in an extreme situation. You have said that a number of times, and I will be happy to have you either refute that or confirm it.

But here is the situation. In the private sector, if a loan were to be subordinated, and it is a scenario that you described, that the borrower is about to default, to declare bankruptcy or whatever, and the person that made the original loan that is in the first position is going to likely lose all their money because of the bankruptcy that is likely to occur. And a deal could be struck should maybe the original lender has no more money or is unwilling to put up any more money, throw good money after bad, as the expression goes, and somebody else, though, is willing to do that, maybe because they get a higher rate of interest, to come in and pony up some more money.

You might be able to restructure a deal like that, but I would think—now, you have a legal team behind you of young, bright-looking people, and you have been in business yourself a long time and maybe done some of these deals—you would have to go to that lender that is in the first position and get their approval before you could restructure and subordinate them to a secondary position, would you not?

Mr. FRANTZ. You do. You are in consultation with them, as we were.

Mr. GINGREY. You were not in consultation with me. I am a taxpayer. You were not in consultation with we, the taxpayer. That is the problem here, and that is the thing that just amazes me that you don't seem to get.

Now, there was a memo that our committee obtained that Jacob Lew, the former Director of OMB, sent not only to the Department of Energy but, as I understand, to every other agency and department of the Federal Government, very specifically saying—it was Circular A–129, to be exact, this guidance document that was sent by then-Director of OMB Jacob Lew to heads of executive departments—you cannot do this under these loan programs, whether they are Department of Energy, Department of Agriculture, or wherever throughout the Federal Government; this cannot be done.

And you guys were told repeatedly, consult with the Treasury. After all, it was in the Department of Treasury where the money was being lent. And you repeatedly refused to go to the source of the funding to ask the question if this was OK. You just, as my colleagues have pointed out, asked some rookie junior counsel in the Department of Energy to give you a quick and dirty opinion so you could go ahead and get this done and get it out the door.

And that is where you—and I say "you" and I use that term, Mr. Frantz, generically. I think you have been a good witness. I think you have been honest with us. But I think you are honestly wrong in thinking that you could continue in this loan program.

And I would like some of my colleagues on both sides of the aisle—I am not ready to say that we should throw the baby out with the bath water and just eliminate the loan programs entirely. I want to think very long and hard on that before I would vote to do that.

Mr. GINGREY. But if you are telling me that if we continue the loan program, and you are the guy there, or you are the straw that stirs the drink in regard to this loan program and another extreme situation comes up, in your judgment, you would subordinate the taxpayer; if that is the case, then I would say let's get rid of the damn thing.

I don't think you have the authority to do that, and if you—you know, I want you to respond to me, and if you are unclear about it, you get together with your team, and you all better look at the documents and study this long and hard, because I think you are flat wrong on this.

Mr. FRANTZ. Well, my only response and at the expense of just the reiteration of my comment, we would hope to never have to subordinate. It is a tool of the last resort. I have more experience in the private sector, quite frankly.

Mr. GINGREY. Let me interrupt you for just a second because you are going down the same path. It is not a tool of last resort. In your quiver, in your toolbox, you don't have that tool. Don't you understand that?

Mr. FRANTZ. The advice, and I, again, do not have a license to practice law, so I have to depend on the civil service advice of our general counsels, who reached a different conclusion, sir.

Mr. GINGREY. Well, I suggest that you go back with your counsel, and I suggest that you talk with the attorneys and the bankers in the Department of Treasury, and maybe even, you know, a little side-bar with Jacob Lew himself and look very carefully at circular A–129 because, Mr. Chairman, I just, I again, I apologize to my colleagues for, as I say, going back to this issue over and over again, but the gentleman just doesn't seem to get it. And that is the reason why I think we just need to make sure that he does get it.

And with that, I yield back.

Mr. WHITFIELD. At this time, I recognize the gentleman from Kansas, Mr. Pompeo, for 5 minutes.

Mr. POMPEO. Thank you, Mr. Chairman.

Thank you, Mr. Frantz, for being here today. I have heard two different—we have got this bill. I think it is a good bill. I am trying to make sure that we don't have anything like Solyndra. I have heard two different descriptions of the problem.

Mr. Frantz, you state the problem as inadequate foresight; not enough data. If you had to do it again, you would do it differently. You might not make the loan. You might not do the subordination. That is one identification of the problem. The second one I have heard from both sides here today is we just need a few more processes and procedures, and gosh, we won't ever end up here today. Those are both wrong. The government has got no business having either the Section 1705 or Section 1703 program in the first instance. The very problem, Mr. Frantz, and you are stuck here testifying today is, it is inevitable that there will be—loans go bad. I came from the private sector. It is absolutely inevitable, and that is why the government shouldn't be in this business in the first instance. Because we will always want to second guess and when we find things like the subordination and we find emails talking about hurry and get a loan out the door because there is going to be a press conference with the President or the Vice President wants to go, the government subjects itself to this kind of inquiry and when we don't get documents, I think we have ever right, indeed, an obligation to pursue that line of inquiry.

So I am going to get you out of this. I am going to get you out of this completely. You will never have to come testify about a failed loan again. We will eliminate the program in its entirety. So I would love to see us do that.

I want to talk to you about, we have got a provision that does let some folks continue in the 1703 program; those folks that have already filed applications. If we went further, and said you couldn't disburse any funds even to those people, tell me what that would do to you in the loan program office.

Mr. FRANTZ. Well, I think, Congressman, that point is that the program was established as a bipartisan program to bring new and innovative technologies that also reduce, sequester greenhouse gases and pollutants. This—having spent my whole career in the energy infrastructure industries, this is high-risk business.

The other point I would like to make for the benefit of the entire committee is that this involves what we call discretionary capital expenditures. Major corporations don't have to do this. What has happened, though, the success of this program has, is, that we have brought small investors, as well as large investors forward to take

very high-risk decisions in employing and bringing new and innovate technologies to the marketplace. We have done it very successfully, and otherwise, that would not have happened.

Mr. POMPEO. You didn't answer my question.

Mr. FRANTZ. You have had a lot of testimony here that other nations——

Mr. POMPEO. I don't want to debate the policy. You are not going to convince me. I have more confidence in the private sector. You have more confidence in government. I understand that distinction. I asked you a specific question. If we denied any further guarantees being made, even those folks who had provided applications to you so far, tell me what that would do to the loan program.

Mr. FRANTZ. Well, we have a group of projects which I have indicated, which are 1703 qualified that did not make the sunset deadline of September 30, 2011, and within that cadre of projects, there are new and innovate technologies that we want to bring to the commercialization.

Mr. POMPEO. How much have these companies expended? I am concerned about the private entities that have already put money in at risk and relied on what I think is a terrible government policy. But nonetheless, they relied on it. I don't want to do any—I am trying to avoid doing harm to them in this transition to what I think the new world ought to look like. So that is my question. Can you tell me what the impact is for those——

Mr. FRANTZ. I will have to do it for the record, sir. I don't have those numbers right in front of me, but we will follow up with you, sir.

[The information follows:]

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Given the breadth of projects remaining in the 1703 program, the amount invested to date in each project varies widely. This is due to multiple factors, including the stage of development, size of the project, and the employed technology. For example, a nuclear generating facility may have expended billions to date, while a smaller scale solar manufacturing facility may have invested several million. The nature of the loan underwriting process ensures that each project has attracted and expends considerable sums prior to the issuance of a loan guarantee.

Mr. POMPEO. Good, thank you. With that, I yield back the balance of my time.

Mr. WHITFIELD. The gentleman yields back the balance of his time.

At this time, I recognize for 5 minutes, the gentleman from Colorado, Mr. Gardner.

Mr. GARDNER. Thank you, Mr. Chairman, I appreciate your time and to Mr. Frantz, and Ms. Hogan, thank you very much for being here today. Just a couple of quick questions for you. When it comes to solar projects, how many loan applications do you have in this program—or not applications, excuse me. How many active participants, remind me, are in the program right now.

Mr. FRANTZ. Well, if you will, I can—I think I have a schedule right in front of me. There are—we have in solar generation, there are 12 projects. In solar manufacturing, we have four projects, but only two of those four have been disbursed, or we have gone forward with. Two are on hold for the reasons that have been identified here in this hearing today. So those are the major—so it is essentially 12 plus 4 for 16.

Mr. GARDNER. So you have got 16. Does that include Solyndra or Abound?

Mr. FRANTZ. It does, sir.

Mr. GARDNER. It does, so that number does include that.

Mr. FRANTZ. Yes, sir.

Mr. GARDNER. You set a number of benchmarks and milestones.

Mr. FRANTZ. Yes, sir.

Mr. GARDNER. So are those just major milestones, or are you actually monitoring compliance with terms of the contract itself?

Mr. FRANTZ. We are doing both, as a matter of fact.

Mr. GARDNER. So you are making sure they are come playing with every term of the contract?

Mr. FRANTZ. Yes, sir, we are, on a weekly to monthly basis on every project. Now, there is a reasonableness. And that is that what we have done now going forward, we are putting phased disbursements against absolute, hard milestones, and we will cease disbursing if in fact they are not meeting their milestones.

Mr. GARDNER. OK, but in terms of the terms of the contract, are all 12, 14, however in existence today, are they meeting every term of their contract?

Mr. FRANTZ. To the best of our knowledge, don't confuse the milestones with defaults, you know. They are not in default. The only ones that are in default are the ones that you have identified, the committee has identified.

Mr. GARDNER. But if they are not complying with the terms of the contract, are they in technical default?

Mr. FRANTZ. No, they are not. We are working with them if we can, to permit them time to make them—I mean, for example, a perfect example you are familiar with. If there is a turbine that has some blades that aren't working, but it is known that it can, if there is a fix that is delaying, it might delay the schedule.

Mr. GARDNER. What about the terms of the contract here. Every single one of these are complying with the terms of their contract to the T?

Mr. FRANTZ. To the best of our knowledge. I mean, as I said, we are monitoring them on a weekly basis.

Mr. GARDNER. All of them are paying Davis-Bacon wages as required?

Mr. FRANTZ. The best of my knowledge. I don't know of any that aren't.

Mr. GARDNER. Was Solyndra or Abound paying Davis-Bacon wages?

Mr. FRANTZ. I would have to take that question for the record. I don't have that information right in front of me.

[The information follows:]

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Both Solyndra and Abound paid Davis-Bacon wages.

Mr. GARDNER. The loan was closed for Abound 10 months before funding was cut off. What changed in those 10 months.

Mr. GARDNER. The marketplace was the deciding factor, they——

Mr. GARDNER. For 10 months, you didn't know that it would happen? You didn't see it coming?

Mr. FRANTZ. We didn't until after we had closed.

Mr. GARDNER. I will just switch to questioning of Ms. Hogan.

Ms. Hogan, you talked about energy-savings performance contracts. I helped lead a letter to the President. Over 20 Republicans signed this letter, actually commending the President for his work on $2 billion worth of investments in the energy savings performance contracts making sure that we encourage those projects to actually go forward and happen. But there have actually been 55,000 potential energy conservation measures that have been identified. Can you tell me where we are in reaching those?

Ms. HOGAN. So is your——

Mr. GARDNER. Where are we in terms of reaching those 55,000 potential energy conservation measures agencies have identified. Can you tell me what we are doing to advance these measures? I mean, where are we on this?

Ms. HOGAN. Yes, so certainly the FEMP program is working with all the agencies around the energy conservation measures that they have identified. Certainly, one cannot fund all of the measures just because they have been identified. So one of the big conversations is, where does the funding come from, and what appropriations that agencies have to put toward that as well as what use we can have of the energy performance contracting.

Mr. GARDNER. And of course with energy performance contracting you don't need to have funding because it is all done through the private sector.

Ms. HOGAN. Correct. So with the energy performance contracting our big effort right now is to help the Federal agencies be successful with the President's challenge for the $2 billion by December 2013.

Mr. GARDNER. But we know that in 2011, energy savings performance contract project investment was $253 million, but that is the lowest level actually since 2007. Can you talk a little bit more about why we are not actually encouraging more energy savings performance contracts to actually get to the $2 billion.

Ms. HOGAN. So we are encouraging them as aggressively as we can. The President's challenge to the Federal agencies has been a great way to get everyone focused on what performance contracting can do. And we have got a tracking system in place where each of the agencies is being measured toward their piece of the commitment to the President's goal with sort of monthly tracking to see where they are. And we are right now, on track to get there. So we are feeling pretty good about that.

Mr. GARDNER. Thank you, Ms. Hogan.

Mr. Chairman, I yield back my time.

Mr. WHITFIELD. At this time, I recognize the gentleman from Louisiana, Mr. Scalise, for 5 minutes.

Mr. SCALISE. Thank you, Mr. Chairman.

I appreciate you having this hearing. I know we have been looking into the Solyndra and the entire loan program for a long time

now. Our committee I think has done tremendous work in uncovering not only this scandal related to Solyndra but a lot of the flaws in the loan program.

I want to ask Mr. Frantz, when we had—you had some conversations with other Members about subordination in general. Where in the law is it that you feel you have the authority to subordinate taxpayers?

Mr. FRANTZ. Again, Congressman, I have to defer to the opinions of the civil servants and the General Counsel's Office of the Department of Energy, and our chief counsel. I do not have a practice——

Mr. SCALISE. Well, you are hiding behind civil service, but it is my understanding, and I am not sure how much you have reviewed a lot of the documents that we have reviewed on this loan program, and especially as it relates to Solyndra, but going back to prior to the decision to subordinate the taxpayer, we uncovered some communications, it seems like, with an outside law firm that the Department of Energy was having on subordination, whether or not it was legal, and it was our understanding that there was a draft of a legal opinion from outside law counsel that it would not be legal to subordinate the taxpayer. And at that point, the department pulled back and said no, we are just going to go find somebody in-house to give us the opinion we wanted. And that is where this memo came from. Are you familiar with that whole——

Mr. FRANTZ. No, with all due respect, I can't really comment on your questions.

Mr. SCALISE. Are you disputing any of that happened?

Mr. FRANTZ. I am sorry?

Mr. SCALISE. We have seen some of that information. Are you disputing that there was outside counsel being talked to about subordination?

Mr. FRANTZ. I am not disputing it one way or the other, sir. I am just not familiar with those communications.

Mr. SCALISE. Well, let me ask you, because we have, you know, we have talked about some of these other problems, and many of us have disputed whether or not you even had the legal authority to subordinate. You are saying here today, that you still think you do have the legal authority to subordinate. Again, if you can show me in the law where you have it, that is one thing, but you are hiding behind some kind of legal opinion that comes from in-house counsel, even though what we seen is outside counsel was getting ready to tell you don't have the legal opinion, so then you went and I guess forum shopped. That is forum shopping in the Department of Energy. But even within the Obama administration, we have got emails from the Department of Treasury telling Department of Energy that we don't think it is legal for you to do this. You ought to go talk to the Justice Department. Did you see those emails?

Mr. FRANTZ. I did not, sir.

Mr. SCALISE. Now, I don't understand how you can sit here and tell us you are serious about reforming this loan program. You told Mr. Barton, you said, we are looking at ways to reform this. We don't want to make the mistakes of the past. You don't even know what happened. We had committee hearings. I mean, this stuff was broadcast on C–SPAN. You can go find all of this. We had to subpoena some of these documents, and you are telling us today you

didn't even go look at this and that you are serious about reforming a program when you didn't even go and review the record that has been out there for months and months, of what we have uncovered in this investigation.

There is stuff that is out there in the public domain you can read in the newspaper about the problems leading up to this subordination, and yet you are telling us you don't even know what happened. You don't even know this history, but you are serious about reforming the program, and you don't even know how it got to this point.

Mr. FRANTZ. I am familiar with what we did, and how we did it. I am not familiar with the background information, and——

Mr. SCALISE. But the background is part of what got us to this point, what got the taxpayers to having lost $535 million of money. It wasn't just us here in Congress on this committee saying it shouldn't have been done. You had people within other agencies in the Obama administration saying you shouldn't do it. And there are emails saying this. And you are telling me you haven't even read those emails?

Mr. FRANTZ. No, I have not.

Mr. SCALISE. Well, you better go back and read them. I mean, it is part of your job if you are going to reform the loan program to know how we lost $535 million of taxpayer money because there are other loans out there. You are admitting. How many more billions of dollars in taxpayer money are out there at risk in these loans?

Mr. FRANTZ. As I have indicated to you, and to the full committee, this is a high-risk business.

Mr. SCALISE. That is a question. How much money? How many billions of dollars are at risk in these loans?

Mr. FRANTZ. I don't—I don't have that. I am not perfectly clairvoyant.

Mr. SCALISE. How can you not have that? You are in charge of the program.

Mr. FRANTZ. I am not particularly clairvoyant enough to know what the future holds. We are working very hard——

Mr. SCALISE. How much money? How much taxpayer money is invested right now in these loans? I would think you would be able to give me an answer. You run the program.

Mr. FRANTZ. I can tell you under the 1705 program, $16.1 billion is committed.

Mr. SCALISE. So there is $16.1 billion of taxpayer money at risk. This isn't venture capital money, private sector people thinking this is a good bet. Obviously, they turned their back on it. The private sector said we probably don't think these investments are good enough, so we are not going to invest in them. So these companies went to the taxpayer. They went to your agency and they got taxpayer money. And so you are now the steward of that taxpayer money. I would hope that you would go back and look at the history of how we have lost hundreds of millions of dollars of taxpayer money because there is still billions out there. I mean, do you understand why it is important that you know this history?

Mr. FRANTZ. Sure, certainly I do.

Mr. SCALISE. Well, then I just find it perplexing that you are going to sit here and tell me you haven't looked at it yet. Because we have had hearings on this stuff. We have got Members on both the Republican and the Democrat side that have read this. I mean, some people fought us subpoenaing the information, but we passed it anyway. We got the subpoenas. We got the documents. We know what the emails say. And many of those emails said don't do it. And yet you are sitting here still saying you are going to do it. You would subordinate the taxpayer, even though there are emails from the Department of Treasury.

Mr. FRANTZ. With all due respect, Congressman, this is a tool of the last resort. We hope to never have to use it again.

Mr. SCALISE. But you said you are still willing to use it, didn't you?

Mr. FRANTZ. Until the attorneys advise me that it is a tool——

Mr. SCALISE. Which attorneys? Some attorneys were going to advise you not to do it and so you went and found other attorneys. I mean, please go look at the history. It is your job to look at this history because there are billions of taxpayer money still at risk, not to mention what was already lost with Solyndra, Beacon, and maybe others.

Mr. WHITFIELD. The gentleman's time is expired.

Ms. DEGETTE. We don't apparently have a document notebook for this hearing, and I would just request that Mr. Scalise place the documents he is referring to, the outside counsel opinions saying that the subordination was illegal, into the record so we could know what he is talking about.

Mr. SCALISE. We have got many documents in the record. Thousands.

Ms. DEGETTE. I think that would be helpful. Thank you.

Mr. SCALISE. We would be happy to continue to go down this road——

Mr. WHITFIELD. All of these documents have been in the record of prior hearings of Oversight and Investigations. We would be happy to put them in the record of this hearing.

Ms. DEGETTE. OK.

Mr. WHITFIELD. At this time, I would like to recognize the gentleman from California, Mr. Bilbray, for 5 minutes.

Mr. BILBRAY. Ms. Hogan, would you clarify something. We talk about electrification, both for transportation, and for generation. And both of them in the most efficient form need a quantity of rare earth to be the most efficient out there. My question is, when you guys are talking about this, how much discussion do you have with the Interior Department about if we want to go to electrification, if we want more wind generation, if we want to produce this domestically, we have got to have, or we should have, domestic sources of the central components of this.

How much interrelationship, or communication do you have with the Interior Department about opening up public lands for mining of these rare earths or other components that are essential? What, there are 70 pounds of rare earths in a Prius. Is there any discussion at all about assuring their sources for the raw materials they have to be able to produce these strategies, things like electrification?

Ms. HOGAN. Yes, so we are dealing with the rare earth issue in a number of ways, and that includes having put together a strategy on rare earth materials so that we can actually understand the criticality of them and the things that we need to do. We are engaged broadly across the Federal Government and what the opportunities are to sort of assure those supplies.

Mr. BILBRAY. You are aware that China is already using the rare earth strangle on Japan for their foreign policy stuff based on fishing.

OK, let me go right to the thing. We all agree that conservation overwhelmingly tends to be the most cost-effective way of saving energy and saving money, right? We require mileage efficiency out of our cars, don't we? Do we require under our transportation funds energy efficiency out of our roads? University of Texas, University of Missouri show in studies that inappropriate traffic control can be adding as much as 22 percent. And I know I sound like a broken record on this, but when we point fingers at the local, at businesses, and we point fingers at consumers and say they must change the way they do business, how can we walk away from one of the largest opportunities we have to reduce fuel consumption and pollution when—is it just because it is government so we just don't hold government to that standard?

Ms. HOGAN. I believe what you are referring to are other strategies you can use to address transportation dealing with vehicle miles traveled, dealing with congestion issues. Again, that is an area where the Department of Energy is actively engaged with the Department of Transportation and others, and addresses those issues through sort of a clean——

Mr. BILBRAY. What kind of outreach do we do to local governments, counties, the League of California Cities and the counties. Things like a stop sign is five times more polluting than not having one. Why are we continuing to not only pay for, allow but pay for, a local government putting up four-way stops or putting up—instead of yields, or not synchronizing traffic signals, or not using more roundabouts, which are one of the most efficient. Why aren't we as aggressive with our local government, and our county, our State government as we are with our auto manufacturers with our CAFE standards?

Ms. HOGAN. Well, certainly, we can have a conversation about what the role of the Federal Government is in this space. What we have been doing very actively for a number of years is working with our States and our local governments to bring forth the best practices to actually show them what the benefits are with these various strategies so that they can adopt them. And, you know, that is having a fair amount of effectiveness.

Mr. BILBRAY. OK, I will just tell you because I come from the local side, but I will tell you, we have spent decades talking about fuel efficiency in the cars, and I would challenge that this committee has held more than a few hours, or even a few minutes discussion about how to require traffic management to be modified to be the more efficient. And that, when you talk about studies showing as much as 20 percent of mobile sources, this is a big deal that I think our credibility is destroyed if we say, we are going to do this to the private sector, but if it is the public sector creating the

problem, we are just going to overlook it. You know what it looks like?

It looks likes, rather than being pro-environment and pro-conservation, we are anti-private sector. I think that we can gain a lot of credibility by being as tough on our fellow government agencies as we are on the private sector.

And I will harp on one thing. I have been on Dan Lungren and the local—about the fact that we can't even allow a blinking amber light next to this build. Because it is just so much easier just to have a blinking red light. And it is just, why bother, because every one of those blinking red lights forces consumers to burn more fuel and pollute more, but we stand by and don't bother because it just seems too small to bother with. And I think when we talk up to 22 percent, don't you agree, it is something that we need to go revisit and should be more aggressive on.

Ms. HOGAN. I think we should always look at those types of opportunities and figure out how to share the best strategies that can get those types of savings, and we would be glad to have a conversation with you on that.

Mr. BILBRAY. I appreciate it, Mr. Chairman.

I will just say to the ranking member, you remember in the 1970s, people said that cars had to be big and heavy to be safe. They had to be polluting to be safe. And you find people who use—government will use the same argument, that we have to have stop signs everywhere. We have to do this. We have to stop traffic. And I think it is time that we put the pressure on our mayors and our county supervisors, and our State officials, just like we put on our automobile manufacturers. And that is something both sides ought to be able to work on.

Ms. DEGETTE. Mr. Bilbray, I will just say that in the 1970s, that is when I got my driver's license. I was just glad to have a car.

Mr. WHITFIELD. We look forward to working with you on that.

We have votes on the House floor, and I understand we have like seven votes.

And so we are going to dismiss the first panel, and Mr. Frantz and Dr. Hogan, I want to thank you for taking time to be with us this morning. We appreciate your testimony, and we look forward to working with you as we move forward.

Those panelists on the second and third panels, I do apologize in advance for this delay. We are going to make every effort to be back here within 1 hour, which will give everyone an opportunity to maybe go have a wonderful meal at the cafeteria, and then you can all come back refreshed and we will meet you back here hopefully at 15 to 1:00.

So the committee is in recess until then. Thank you.

[Recess.]

Mr. BURGESS [presiding]. We will go ahead and reconvene. The other members are likely to be making their way back from the House floor, but we do have two panels left to go through on the Subcommittee on Energy and Power, and Subcommittee on Oversight and Investigations joint subcommittee hearing. And for our second panel this afternoon, we are very fortunate to be joined by Dr. David Kreutzer, who is a research fellow in energy, economics and climate change from the Heritage Foundation; Miss Diana

Furchtgott-Roth—I didn't get your name right. Furchtgott-Roth, is that close enough—senior fellow from the Manhattan Institute for Policy Research; and Mr. Kenneth Berlin, general counsel, and senior vice president for Policy and Programming, the Coalition for Green Capital.

We will recognize each of you for 5 minutes for an opening statement, and though we will not interrupt, I do ask that you pay attention to the little black box in front.

STATEMENTS OF DAVID W. KREUTZER, RESEARCH FELLOW IN ENERGY ECONOMICS AND CLIMATE CHANGE, THE HERITAGE FOUNDATION; DIANA FURCHTGOTT–ROTH, SENIOR FELLOW, MANHATTAN INSTITUTE; AND KENNETH BERLIN, GENERAL COUNSEL AND SENIOR VICE PRESIDENT FOR POLICY AND PROGRAMMING, COALITION FOR GREEN CAPITAL ACTION FUND

Mr. BURGESS. Dr. Kreutzer, you are recognized for 5 minutes for the purposes of an opening statement.

STATEMENT OF DAVID W. KREUTZER

Mr. KREUTZER. Thank you very much, members of the committee for giving me this opportunity to discuss loan guaranties. My name is David Kreutzer. I am a research fellow in energy, economics, and climate change at the Heritage Foundation. However, the views I express are my own and should not be construed as representing any official position of the Heritage Foundation.

Today I would like to address several aspects of loan guarantees and investment in energy markets. My first point is that private capital markets will fund risky projects, projects that involve large amounts of capital, and projects that take a long time to repay their investors. These features are not characteristic of market failure, nor do they justify subsidies, loan guarantees or mandates. Ten-year-old Christmas trees and 20-year old whiskey are both funded by private investment, as is the development of new drugs, which can take decades and which can cost billions of dollars.

My second point is that the Section 1705 loan program was founded on a flawed concept; the concept being that the Department of Energy can systematically discover projects that are both commercially viable and unable to attract sufficient private investment. The definition of commercially viable has to mean that the expected returns exceed the expected costs in present-value sense, the sense that matters to financial markets.

The implication is that the Department of Energy can consistently uncover profitable investments that profit-seeking investors have missed. Third, loan guarantees can misallocate capital even when the loans are repaid. The projects that can use funding in the economy are many times greater than the resources available to fund them. So the projects must be sorted and ranked. This is just what financial markets do. Projects with higher expected rates of return get funded before those with lower rates of return.

In my written testimony, I describe a project that was sold by the initial developer hours after receiving a 1705 loan guarantee. I estimated that the value of the loan guarantee was about $100 million, and with this valuable guarantee as part of the package, the

project sold for only $75 million. This implies that without the loan guarantee, the project had a negative return. That is, the inputs had a higher value than would the energy that these projects were going to produce.

My fourth point, the 1705 loan program is likely to fund two sorts of projects; ones that are not commercially viable, or on the other hand, ones that should have been financed privately.

Of the 26 projects listed under the Department of Energy's Web site as having received 1705 loan guarantees three have gone bankrupt already. They are Solyndra, Beacon Power, and Abound Solar.

A fourth company, Nevada Geothermal, appears to be struggling, its stock having dropped 90 percent since the fall of 2010.

In the category of firms who should have had the resources and financial sophistication to fund their own projects are the Caithness Shepherds Flat project, one of whose partners is General Electric, a company whose market capitalization is $170 billion. Nevertheless, this project received a loan guarantee for $1.3 billion.

Cogentrix of Alamosa, which received a loan guarantee of $90.6 million. Cogentrix is a subsidiary of Goldman Sachs. It seems incredible that Goldman Sachs, one of the world's most sophisticated and active financial firms, with a market capitalization of $47 billion, and one that handled $529 billion of mergers and acquisitions in 2011, could have a commercially viable project for which they could not get funding.

Exelon, with a market capitalization of $32 billion, received a loan guarantee of $646 million.

Granite Reliable received a loan guarantee of $168.9 million. Granite is 75 percent owned by Brookfield Asset Management, which has a market cap of $20.5 million.

Mesquite Solar 1 received a loan guarantee of $337 million, yet Mesquite is owned by a subsidiary of Sempra Energy, whose market cap is $16.5 billion.

NextEra Energy Resources received a loan guarantee of $2.3 billion while they have a market cap of $20 billion.

NRG received loan guarantees of $3.8 billion for three projects. NRG has a market cap of $3.9 billion. However, one of energy's projects has partners whose parent companies are BP, Chevron, and Statoil. Those three companies alone have a market capitalization that is close to a half a trillion dollars. Nevertheless, they received a loan guarantee.

Prologis, a real estate trust with a market cap of $15.2 billion, received a loan guarantee of $1.4 billion.

In conclusion, private markets fund risky, large, and long-term projects. Pretending that loan guarantees are necessary for commercially viable projects leads to either failure or unwarranted taxpayer funded subsidies. Firms with tens and hundreds of billions of dollars, don't need Federal loan guarantees. Thank you.

[The prepared statement of Mr. Kreutzer follows:]

The American Energy Initiative: The Cost of Loan Guarantees

Testimony Before
The Committee on Energy and Commerce Subcommittee on Energy and Power
United States House of Representatives

July 12, 2012

David W. Kreutzer, Ph.D.
The Heritage Foundation

Summary

The Section 1705 loan program is based on flawed understanding of capital markets. The loan guarantees misallocate capital, reduce productivity, and burden federal finances. Loan-guarantee recipients should be able to procure private financing if their projects are truly commercially viable.

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CONGRESSIONAL TESTIMONY

The American Energy Initiative: The Cost of Loan Guarantees

Testimony Before
The Committee on Energy and Commerce
Subcommittee on Energy and Power
United States House of Representatives

July 12, 2012

David W. Kreutzer, Ph.D.
Research Fellow in Energy Economics and Climate Change
The Heritage Foundation

My name is David Kreutzer. I am Research Fellow in Energy Economics and Climate Change at The Heritage Foundation. The views I express in this testimony are my own and should not be construed as representing any official position of The Heritage Foundation.

Investment

The list of investment opportunities is virtually unlimited, but the capital to finance them is strictly limited. This requires that choices be made among the different investments. It makes the most sense to apply capital to those investments with the highest expected return. This is what capital markets do.

All investments are uncertain, but some have a smaller chance of success than others, or are at least perceived to have smaller chances. This must be factored into the investment decision. A project that has a 99 percent chance of returning $100 is worth twice as much as a project that has a 49.5 percent chance of returning $100. So the projects with lower chances of success must be associated with higher rewards when they do succeed or they will not be chosen. Nor should they be chosen if they do not offer a higher reward.

It is an open question how much additional reward is required to offset additional risk. Investments with greater risk usually require a more than proportionally larger reward to compensate for the risk. However, because investments can be pooled, allowing investors to take small shares of a large number of high-risk investments, the premium for accepting risk need not be huge.

Investments are made before returns are received. There is always a valley of death between the initiation of a project and the point where it starts generating revenue. The wider the valley (that is, the more distant the return), the less attractive is the investment. Suppose, for instance, there are two $50 investments that each yield $100. Project A returns the $100 in five years, while Project B returns the $100 in 10 years. If Project A is chosen, then the investor can repeat the investment starting in year five and get another $100 at the end of the tenth year. So, choosing Project A generates a net of $50 in year five and another $100 in year 10—all from the initial $50 investment. Choosing Project B would forego the additional $50 in year five. There is no sense in pretending that the length of the payback time doesn't matter.

However, contrary to popular assertion, private investors do finance projects that take longer than the next quarterly report to pay off. Amazon.com was founded in 1994 and went public in 1997 with a business plan that did not expect a profit for four to five years. The dot-com bust delayed Amazon's progress, and it made its first full-year profit in 2003.[1] Pharmaceutical investments cost more and can take longer to pay off. A recent calculation showed that the average cost of a new drug was over $4 billion[2] and that the time from discovery to market was about a decade.[3] For an appropriate return, investors

[1] Saul Hansell, "TECHNOLOGY; Amazon Reports First Full-Year Profit," *The New York Times*, January 28, 2004, http://www.nytimes.com/2004/01/28/business/technology-amazon-reports-first-full-year-profit.html (accessed July 9, 2012).
[2] Matthew Herper, "The Truly Staggering Cost of Inventing New Drugs," *Forbes*, February 10, 2012, http://www.forbes.com/sites/matthewherper/2012/02/10/the-truly-staggering-cost-of-inventing-new-drugs/ (accessed July 9, 2012)
[3] Michael Dickson and Jean Paul Gagnon, "The Cost of New Drug Discovery and Development," *Discovery Medicine*, June 20, 2009, http://www.discoverymedicine.com/Michael-Dickson/2009/06/20/the-cost-of-new-drug-discovery-and-development/ (accessed July 9, 2012).

will wait. People will wait 10 years for Christmas trees to grow and 20 years for whisky to age before they see a profit.

Private investors will finance risky projects, new projects, and projects with long payback periods. None of these conditions is an example of market failure or a call for loan guarantees.

Section 1705 Loans

In October 2010, the director of the Department of Energy's Loan Program Office, David Frantz, explained the department's loan-guarantee programs funded by Section 1705 of the American Recovery and Reinvestment Act.[4] He listed the criteria that projects must meet to qualify for loan guarantees. Two of the criteria presented were mutually exclusive. The first criterion was that projects should be commercially viable. The second was that those seeking funding must demonstrate that the projects cannot get private financing.

"Commercially viable" has to mean that the investment will pay off—not just repay the money but pay a rate of return that is at least as good as the best investment that does not get funded. That is the sort of project that investors are always seeking. A loan guarantee might help to finance a project that otherwise would not get financed because the expected rate of return was not high enough compared to other investments. If so, then

[4]U.S. Department of Energy, "Loan Guarantee Program Status Update," October 29, 2010, *http://www.uschamber.com/sites/default/files/issues/environment/files/LGP%20Update%20_Chamber_102910_Final.pdf* (accessed April 10, 2011).

capital is diverted from a better project to a worse one, and the overall productivity of capital declines.

Some might argue that a less-than-full-employment economy removes the need for meeting rate-of-return criteria; that is, that the resources will come from the slack in the economy. This reasoning fails for at least two reasons.

First, the resources to actually produce or construct the project do not come entirely from the unemployment line. They come from productive employment elsewhere.

Second, even if the resources came entirely from the unemployed, there are still alternative projects that are not undertaken that could offer a better return.

A program that seeks to fund projects that are both market viable and unable to get private financing will have to settle for projects that meet just one or neither of those criteria. That is, the projects are likely to fail, or they could have gotten private financing.

Section 1705 Recipients

The majority of the Section 1705 loans fall into two categories: Either they were not market viable, as demonstrated by subsequent economic performance, or they should have been able to get private financing for truly viable programs. In the first category:

- Solyndra received a loan guarantee for $535 million in the fall of 2009. In the spring of 2010, it failed to complete its initial public offering after an independent audit questioned the ongoing viability of the firm.[5] Then, in the fall of 2010, the firm closed one of its manufacturing facilities and laid off 180 workers.[6] In the fall of 2011, Solyndra filed for bankruptcy and laid off all but a handful of its remaining employees.
- Beacon Power received a $43 million loan guarantee in July 2009. Beacon Power also filed for bankruptcy in the fall of 2011.[7]
- Abound Solar laid off 125 employees and filed for Chapter 7 bankruptcy July 2, 2012, after drawing $70 million of its $400 million loan guarantee.[8]
- Nevada Geothermal Power's Blue Mountain geothermal project received a loan guarantee for $98.5 million. Since fall 2010, the price of Nevada Geothermal Power has fallen more than 90 percent to $0.04 per share.[9]

In the second category are projects whose owners have the resources and sophistication to arrange private financing:

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[5]David Freddoso, "Obama's Big Green Gamble: Solyndra," *The Washington Examiner*, July 14, 2010, *http://washingtonexaminer.com/node/65146#* (accessed April 10, 2011).
[6]Ronnie Greene and Matthew Mosk, "Green Bundler With the Golden Touch," *The Huffington Post*, March 30, 2011, *http://www.huffingtonpost.com/2011/03/30/green-bundler-with-the-golden-touch_n_842863.html* (accessed April 10, 2011).
[7] Reuters News Service, "Beacon Power Bankrupt; Had U.S. Backing like Solyndra," October 31, 2011, http://www.reuters.com/article/2011/10/31/us-beaconpower-bankruptcy-idUSTRE79T39320111031 (accessed June 14, 2012).
[8] Reuters News Service, "Abound Solar Files to Liquidate in Bankruptcy," July 2, 2012, http://www.reuters.com/article/2012/07/02/us-aboundsolar-bankruptcy-idUSBRE86118020120702 (accessed July 9, 2012).
[9] Bloomberg/Business Week Stock Quote, http://investing.businessweek.com/research/stocks/charts/charts.asp?ticker=NGP:CN (accessed June 14, 2012).

- Caithness Shepherds Flat project received a $1.3 billion loan guarantee. The investment partners include General Electric, whose market capitalization is $170 billion.
- Cogentrix of Alamosa received a loan guarantee for $90.6 million. Cogentrix is owned by a subsidiary of Goldman Sachs, a company that has a market capitalization of $47 billion and is one of the most successful financiers, if not the most successful financier, in the world. For instance, Goldman Sachs handled $529 billion of mergers and acquisitions in 2011.[10]
- Exelon received a loan guarantee of $646 million. Exelon has a market capitalization of $32 billion.
- Granite Reliable received a loan guarantee of $168.9 million. Granite is 75 percent owned by Brookfield Asset Management, whose market capitalization is $20.5 billion.
- Mesquite Solar 1 received a loan guarantee of $337 million. Mesquite is owned by a subsidiary of Sempra Energy, whose market capitalization is $16.5 billion.
- NextEra Energy Resources received loan guarantees of $2.3 billion for two projects. NextEra has a market capitalization of $20 billion.
- NRG received loan guarantees of $3.8 billion for three projects. NRG Energy has a market capitalization of $3.9 billion. NRG's biggest loan guarantee was for its BrightSource project, where NRG's partners include subsidiaries of BP, Chevron, and Statoil, who together have a market capitalization of more than a half-***trillion*** dollars.

[10] Christine Harper, "Goldman Sachs Winning CEOs as Global No. 1 With M&A-Equity Deals," Bloomberg News, December 28, 2011, http://www.businessweek.com/news/2011-12-28/goldman-sachs-winning-ceos-as-global-no-1-with-m-a-equity-deals.html#p2 (accessed July 10, 2012).

- Prologis, a real estate trust with a market capitalization of $15.2 billion, received a loan guarantee of $1.4 billion.
- Abengoa, a Spanish firm with a market capitalization of $1.3 billion, received loan guarantees totaling $2.7 billion for three projects.

It is not credible that firms worth $10 billion, $20 billion, or $200 billion cannot find financing for $1 billion commercially viable projects. Either the projects are expected to generate below-market rates of return or the owners simply want the interest-rate subsidy that comes with a guarantee from the federal government.

Loan Guarantees Misallocate Capital

The Antelope Valley Solar Ranch (AVSR), now owned by Exelon, illustrates how loan guarantees can misallocate capital and reduce overall output.

The AVSR project was originally started by First Solar. Hours after receiving the $646 million loan guarantee, First Solar sold the project to Exelon for $75 million. Most of the work was yet to be done on the project. So what Exelon purchased with its $75 million were the plans, the obligation to buy the materials and actually build the solar farm, and two very valuable financial assets. The first of these assets was a set of 25-year power-purchase agreements with two California utilities. The second was the $646 million loan guarantee.[11]

[11] David Kreutzer, "Money Loser + $100 Million Subsidy = Money Maker?" *The Foundry*, The Heritage Foundation, February 13, 2012, http://blog.heritage.org/2012/02/13/money-loser-100-million-subsidy-money-maker/.

For some reason, the price for the power-purchase agreements is confidential, so we cannot determine their value to the AVSR package sold to Exelon, but we can estimate the value of the loan guarantee. If a federal loan guarantee cuts the interest rate by two points, say from 6.5 percent to 4.5 percent, the loan would cut $9 million per year from the finance costs on the $646 million, 20-year loan. This saving would have a present value of about $100 million. An 8-K filing First Solar made with the Securities and Exchange Commission reveals that First Solar sold the project to Exelon for only $75 million. This implies that without the loan guarantee, the project's net expected value would have been negative. Of course, the overall cost of the project to Exelon will be much more than $75 million, but the project also comes with power-purchase agreements that guarantee a revenue stream.

So the present value of the revenue stream appears to be $25 million *less* than the present value of the costs without the loan guarantee. If this were the case, it is not too surprising that Exelon would not want to privately finance the project regardless of Exelon's market capitalization.

Guarantees Are Not Costless to the Government

Though it is obviously false in retrospect, one assertion early on was that loan guarantees would not cost the government much since the loans would be repaid. As noted above, the Section 1705 program has already lost about $650 million.

Another apology for the losses is that they should be expected when financing risky ventures. For instance, venture capitalists know that some of their investments will not pay off.

There are big differences between venture funding and guaranteed loans. First, venture capitalists lose their own money when projects fail. Continued failure gets them out of the business of misallocating capital. Second, venture capitalists have equity positions that allow them to profit from successful investments. These profits are what allow them to suffer the occasional loss. The Section 1705 loan program gave the government no equity position. In any event, it would also be inappropriate for the government to get into the equity side.

CO_2 Emissions

Another argument for subsidizing renewable energy is that it will cut CO_2 emissions. Whether it is worth cutting CO_2 emissions or not, it certainly does not make sense to cut them with an expensive program when a less costly technology achieves the same reductions.

With their heavy subsidies, solar and wind power combined generate about 3 percent of total electricity in the U.S. Compared to coal-generated electricity, this would save about 110 million metric tons of CO_2 emissions per year. Natural gas generated 15.8 percent of electricity in 2000. By 2011, natural gas generation grew to 24.1 percent. Because natural gas emits only 63 percent as much CO_2 per unit of electricity as does coal, this market-

share increase of 8.3 percent reduced CO_2 emissions by 120 million metric tons.[12] The latest data show that natural gas now generates about 32 percent of electricity, which nearly doubles the CO_2 reductions calculated for last year. In short, just the *increase* in generation from unsubsidized natural gas over the past 12 years cut more CO_2 per year than all the solar and wind power combined.

Conclusion

The Section 1705 loan guarantees are based on the false premise that the Department of Energy can systematically discover commercially viable investment projects that private investors have overlooked. The evidence indicates that the Section 1705 program funded projects that were either not commercially viable or, were they viable, could have been funded by the owners. These loan guarantees misallocate capital, have a significant cost to the federal government, and fund projects that do not reduce CO_2 emissions as effectively as the unsubsidized move to cheap natural gas has done.

[12] David Kreutzer, "U.S. Way Ahead in Clean Energy Race," *The Foundry*, The Heritage Foundation, October 25, 2011, http://blog.heritage.org/2011/10/25/u-s-way-ahead-in-clean-energy-race/.

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Mr. STEARNS [presiding]. Yes, you are welcome.
Your opening statement.

STATEMENT OF DIANA FURCHTGOTT–ROTH

Ms. FURCHTGOTT–ROTH. Thank you very much, Mr. Chairman. I would like to introduce the interns who are here with me today, who have——

Mr. STEARNS. Super.

Ms. FURCHTGOTT–ROTH. Some of them, it is their first trip to Capitol Hill. I have Christopher Bien, Leah Loversky, Chi Zhang, Kris Munger, and my son, Theodore Furchtgott. They are very privileged to be here at the hearing.

Mr. STEARNS. Well, welcome, welcome. Nice to have you.

Ms. FURCHTGOTT–ROTH. Solyndra's bankruptcy has been attributed to factors beyond its control, such as the falling prices for polysilicon products and lower costs of pricing in China. The documents filed by Solyndra with the Securities and Exchange Commission in September 2009, after Vice President Biden visited the premises and ahead of an initial public offering that failed in June 2010, show that the company was fully aware of its risks. PricewaterhouseCoopers, Solyndra's auditors, expressed public concern about the company. Reuters reported, quote, "PricewaterhouseCoopers, LLP said Solyndra's recurring operating losses, negative cash flows, $532 million stockholder deficit, and other factors raise substantial doubt about its ability to continue as a going concern."

Solyndra itself, in its public filing at the SEC in September 2009, offered 22 pages of reasons why it might fail. In case anyone missed the point, the report included a table of financial and operating data for 2006 to 2009, showing six different measures of gross and net losses; not one positive outcome.

On May 24, 2010, Valerie Jarrett, Senior Advisor to the President, forwarded a blog post by Philip Smith in Cleantech to Ron Klain, chief of staff of Vice President Biden. The report outlined the doubts of PricewaterhouseCoopers. The post stated, quote, "On a pure business analysis, you have to agree with the auditors. They are not a going concern."

Valerie Jarrett said to Klain in an email, quote, "As you know, a going concern letter is not good. Thoughts."

Although Jarrett and Klain knew that Solyndra would go under, 2 days later, on May 26, 2010, the President visited Solyndra and declared, "it is here that companies like Solyndra are leading the way towards a brighter, more prosperous future."

By January 2011, it was clear to many that Solyndra was going to fail. Still, the Department of Energy helped shore that by allowing it, as we heard in the previous panel, to draw on another $68 million in government loans. In addition, the Department signed off on a restructuring agreement that allowed $385 million in government loans to take a backseat to $75 million in new investor's funds. In the restructuring, the $75 million from investors became senior to all government debt, except $143 million.

Although objections were raised from OMB and the Department of Justice, the Energy Department paid no heed. On August 16, 2011, an unnamed official wrote in an email to Mary Miller, Assist-

ant Secretary for Financial Markets at Treasury, quote, "The Title XVII statute and the DOE regulations both require that the guaranteed loan shall not be subordinate to any loan or other debt obligation. The DOE regulations state that DOE shall consult with OMB and Treasury before DOE grants any, quote, deviation from the requirements of the regulations to the extent such requirement is not specified by the statute. That would constitute a substantial change to the financial terms of the loan guarantee agreement. But I will bet a quarter, that the DOE lawyers have some kind of theory on how whatever restructuring they have done and whatever they are considering does not violate these requirements. Can't wait to hear it," end quote.

The question before us is why is the government, under pressure from voters and credit rating agencies to reduce the budget deficit, issuing these loan guarantees at all. That is why this No More Solyndras bill is so valuable. One answer we hear repeatedly is fear of China, the new red scare. Now America is throwing billions of dollars at renewable energy, electric cars, concerned that China is getting ahead of us and stealing our jobs. But China is not using solar energy for its electricity production. As of 2008, 70 percent of China's energy came from coal. Wind and solar provide less than 2 percent of power for China's electricity. If we are afraid of China's growth, domestic industrial policy is not the answer. Rather, we should improve economic growth through more efficient tax and regulatory policies and increased use of our own domestic resources such as coal and natural gas. Thank you for giving me the opportunity to testify.

[The prepared statement of Ms. Furchtgott-Roth follows:]

The American Energy Initiative: No More Solyndras

Diana Furchtgott-Roth
Senior Fellow, Manhattan Institute

Testimony before the Subcommittee on Energy and Power,
House Committee on Energy and Commerce

July 12, 2012

The American Energy Initiative: No More Solyndras

Diana Furchtgott-Roth
Senior Fellow, Manhattan Institute

Chairman Whitfield, Ranking Member Rush, members of the Committee, I am honored to be invited to testify before you today on the subject of your efforts to ensure that there will be no more Solyndras. I am a senior fellow at the Manhattan Institute. From 2003 until April 2005 I was chief economist at the U.S. Department of Labor. From 2001 until 2002 I served at the Council of Economic Advisers as chief of staff. I have also been a senior fellow at the Hudson Institute and a resident fellow at the American Enterprise Institute. I have served as Deputy Executive Secretary of the Domestic Policy Council under President George H.W. Bush and as an economist on the staff of President Reagan's Council of Economic Advisers. I am the author of *Regulating to Disaster: How Green Jobs Policies Are Damaging America's Economy,* which will be published in August by Encounter Books.

There is no better proof of the risks of green industrial policy, or the misuse of "stimulus" funds, than the case of Solyndra, the Fremont, California solar company. It declared bankruptcy in September 2011 after receiving a total of $528 million in federal loans.

The tangled tale of Solyndra, a startup company that thought it could make solar panels that turn sunshine into electricity and sell them profitably, ably illustrates the perils of "industrial policy," a shorthand phrase for the government's deciding which new industries or startups to support with federal money, loan guarantees, or tax benefits.

It's not just Solyndra that has gone bankrupt. Abound Solar, a solar panel manufacturer based in Colorado that received funds from the federal government, filed for bankruptcy on July 2, citing aggressive pricing actions from Chinese solar panel companies as the principal cause. Abound had received a $400 million loan guarantee, and spent about $70 million before the Department of Energy halted its credit. The company plans to suspend operations and dismiss 125 employees.

In August 2010, Beacon Power Corporation received a $43 million loan guarantee from the Department of Energy to build a $69 million, 20-megawatt flywheel energy storage

plant in New York. After receiving $39 million of the loan, the company filed for bankruptcy in October 2011 and was subsequently bought by a private equity firm.

Nevada Geothermal, a struggling company heading into financial trouble, received a $98.5 million loan guarantee in September 2010. According to its interim financial statements, Nevada Geothermal has "incurred net losses over the past several years, accumulated a deficit of $98.9 million, has substantial debts and currently does not generate positive cash flow from operations after debt service costs." With a net loss of $11 million for the nine-month period ending on March 31, 2012, it is likely that the company will be unable to repay its loans. When the financial statements issued by the board of directors state, "Consequently, material uncertainties exist which cast significant doubt upon the Company's ability to continue as a going concern" it raises questions as to why DOE did not do a more thorough investigation of the company during the loan guarantee investigation process.

Ener1, a rechargeable batteries maker for the transportation, utility grid and industrial electronics markets, declared bankruptcy on January 26, 2012. It filed for Chapter 11 bankruptcy after spending $55 million of a $118.5 million Department of Energy Grant. With a 48 percent investment in Think Holdings, AS, a Norwegian electric vehicle manufacturer, Ener1 suffered from the decreasing demand of high-priced little Battery Electronic Vehicles. According to interim Chief Executive Officer Alex Sorokin in the petition, Ener1 also faced fierce competition from battery makers in China and South Korea which have lower costs on manufacturing base, labor and raw materials.

Range Fuels, a company aimed at converting forest waste into bio-fuels, failed to prove the feasibility of employing the technology in a cost-effective way. It first received a grant of $76 million from the Department of Energy for a wood-based ethanol plant producing 40 million gallons per year. Later on, the company got another $80 million loan guarantee from the Department of Agriculture in January, 2009. These grants did not prevent Range Fuels from bankruptcy. It closed the plant in January 2010, and filed for bankruptcy in September 2011.

Both Republican and Democratic administrations have practiced industrial policy under the "green" energy rubric by supporting ventures that promised to pursue renewable, non-carbon-based energy production or energy conservation.

The authority for the Department of Energy (DOE) to issue loan guarantees for innovative, clean energy technologies, the Energy Policy Act of 2005, was passed by a Republican House and Senate and signed into law by George W. Bush. In the 2005 Act, Congress authorized the issuance of $4 billion of loan guarantees in 2007, and $47 billion in 2009 with the objective of encouraging the development of new technologies. [i] [ii]

However, no DOE loan guarantees were made during the Bush administration. The DOE wanted to make a loan to Solyndra, but career officials at the Office of Management and Budget (OMB) did not approve it, on the grounds that the project was not financially sound.

The Section 1705 Loan Program was created by the 2009 American Reinvestment and Recovery Act, which amended the Energy Policy Act of 2005.[iii] The 2009 stimulus bill gave the DOE an additional $3.95 billion for guarantees.[iv]

The Obama White House followed up by encouraging the DOE to issue loan guarantees for what the Department and the White House regarded as clean energy projects; however, these projects turned out not to be commercially viable. The loans themselves were made through the Federal Financing Bank (FFB), a bookkeeping arm of the Treasury Department, and so the money was lent at below-market interest rates.

Solyndra: A Failure, Like Others

Solyndra was founded in California in May of 2005 by Christian Gronet to produce a less-expensive type of solar panels, devices to convert sunlight into electricity. Its panels consisted of forty cylinders coated with solar cells.[v] A competing technology consisted of flat panels, made of polysilicon. Polysilicon was expensive, and, according to Solyndra, the panels were more costly to install on a building's roof.

By November 2008, Solyndra had raised $450 million from investors and was applying for a loan guarantee from the DOE under the Energy Policy Act of 2005. But the loan was turned down in January 2009 in the waning days of the Bush administration, on the grounds that "there is presently not an independent market study addressing long term prospects for this company" and "there is concern regarding the scale-up of production assumed in the plan for Fab 2," a second factory.[vi]

On January 13, 2009, Lachlan Seward, director of the loan program at the DOE, wrote, "After canvassing the Committee it was the unanimous decision not to engage in further discussions with Solyndra at this time."[vii] Lachlan was referring to the DOE Credit Committee, which was composed of DOE officials.

When President Obama took office days later, the tone changed. In an e-mail dated March 10, 2009, a senior adviser to Steven Chu, the Secretary of Energy, wrote an unnamed official, "The solar co board approved the terms of the loan guarantee last night, setting us up for the first loan guarantee conditional commitment for the president's visit to California on the 19th."[viii] As events soon

revealed, March 19, 2009, was a wildly premature target date for a presidential visit. In fact, President Obama didn't visit Solyndra until May 2010.

E-mails dated 2009 depict White House and DOE officials rushing to sign off on the project so that Vice President Joe Biden could appear at the Fremont plant in September 2009 to trumpet the administration's support for green jobs. There was confusion about who would go and when, as well as a palpable sense of urgency and hurry. Within the OMB—historically the most fiscally conservative agency in any administration—there was anxiety about premature planning and precedent.

On March 10, 2009, an OMB official whose name was blacked out by the administration before the e-mails were released to Congress wrote, "DOE is trying to deliver the first loan guarantee within 60 days from inauguration (the prior administration could not get it done in four years). This deal is NOT [sic] ready for prime time." [ix] Another OMB official wrote on August 27, 2009, "As long as we make it crystal clear to DOE that this is only in the interest of time, and that there's no precedent set, then I'm okay with it. But we also need to make sure that they don't jam us on later deals so there isn't time to negotiate those, too." [x]

Concerns were still apparent later that summer. On August 19, 2009, an unnamed official wrote presciently, "While debt coverage is robust under stress conditions, the project cash balance goes to $62,000 in September 2011. Under the assumption that a small amount of cash is tied up in working capital, the project will face a funding shortfall. Even one day of A/R results in a negative cash balance, for example."[xi]

As of August 27, 2009, the loan still had not been approved. A DOE official wrote, "Can you confirm whether there are any issues regarding a closing on Sept. 3 for a Sept. 4 VP event on Solyndra?"[xii]

On August 31, 2009, an unidentified OMB official wrote to Terrell McSweeny, domestic policy adviser to Vice President Biden, saying "We have ended up in the situation of having to do rushed approvals on a couple of occasions (and we are worried about Solyndra at the end of this week.) We would prefer to have sufficient time to do our due diligence reviews and have the approval set the date for the announcement rather than the other way around."[xiii] Nevertheless, the loan was approved on September 3, and Biden announced it via satellite at Solyndra's plant on September 4.

Solyndra's bankruptcy has been attributed to factors beyond its control, such as falling prices for polysilicon products and lower costs and pricing in China. But documents filed by Solyndra with the Securities and Exchange Commission (SEC) in September 2009, after Biden's visit and ahead of an initial public offering that

failed in June 2010, show that the company was fully aware of all the risks. The House Energy and Commerce Committee has sent a subpoena to the White House to ask for e-mails relating to Solyndra, and it is clear that officials were aware of the situation.

PricewaterhouseCoopers, Solyndra's auditors, also expressed public concern about the company. Reuters reported, "PricewaterhouseCoopers LLP said Solyndra's recurring operating losses, negative cash flows, $532.3 million stockholder deficit and other factors 'raise substantial doubt about its ability to continue as a going concern.' " The combination of its deficit, operating losses, and negative cash flow raised doubts as to its ability to survive.[xiv]

Solyndra itself, in its public filing (S-1) at the SEC in September 2009, dutifully offered twenty-two pages of reasons why it might fail. In case anyone missed the point, the report included a table of financial and operating data for 2006–2009, showing six different measures of gross and net losses—not one positive outcome.

On May 24, 2010, Valerie Jarrett, senior adviser to the president, forwarded a blog post by Philip Smith in Cleantech to Ron Klain, chief of staff to Vice President Biden. The report outlines the doubts of Pricewaterhouse Coopers, Solyndra's auditors, about the company. The post stated, "On a pure business analysis you have to agree with the auditors—they are not a going concern."[xv] Jarrett said to Klain in an e-mail, "As you know, a Going Concern letter is not good. Thoughts?"[xvi]

Although Jarrett and Klain knew that Solyndra would go under, two days later, on May 26, 2010, the president visited the newly built Solyndra manufacturing plant in Fremont, California, and declared, "It is here that companies like Solyndra are leading the way toward a brighter, more prosperous future ... We can see the positive impacts right here at Solyndra."

Putting Private Debt before Government Debt

Fast-forward to January 2011, when Solyndra's cylindrical panels were not competitive. The price of the polysilicon used by its rivals on their flat panels, the product competing with Solyndra, had fallen from about $375 a kilogram in 2009 to around $60, making flat panels far more attractive. First Solar, a U.S. maker of flat panels, could generate solar power for 75 cents a watt, compared to $4 for Solyndra.

Still, when Solyndra came calling, the DOE insisted on throwing good money after bad, to the frustration of an unnamed OMB official. He wrote, on January 31, 2011, *"If Solyndra defaults down the road, the optics will be arguably worse later than they*

would be today [sic]."[xvii] He added that the public might forgive one mistake, due to the complexity of dealing with innovative companies, but not two mistakes.

Events would later show that the Obama administration made a bad bet. Despite an infusion of investor funds and a loan "restructuring" in February 2011 intended to raise additional funds, Solyndra filed for bankruptcy in September 2011 in the District of Delaware U.S. Bankruptcy Court, in Wilmington.

The company had used $460 million of the federal loans by February 2011 to build a second factory near Fremont, California, even though it had excess capacity at its first plant in Fremont.[xviii] With Solyndra's bankruptcy, the bulk of these funds are lost to taxpayers.

By January 2011, it was clear to many that Solyndra was going to fail. Still, the DOE helped shore it up by allowing it to draw on another $68 million in government loans. In addition, the department signed off on a restructuring agreement that allowed $385 million in government loans to take a back seat to $75 million in new investors' funds. In the restructuring, the $75 million from investors became senior to all government debt except $143 million.[xix]

Due to the restructuring, the remaining $385 million in government loans, first issued in 2009, have equal status as bankruptcy claims with $175 million in original investor funds, and can be recovered only after the investors get back their $75 million and the government gets back $143 million. This reduced the value of the $385 million by about a third because the government would not get back all its money—it would likely only get the $143 million.

Although objections were raised from the OMB and the Department of Justice (DOJ), the DOE paid no heed. On August 16, 2011, an unnamed official wrote in an e-mail to Mary Miller, assistant secretary for financial markets at the Treasury,

> "The Title XVII statute and the DOE regulations both require that the guaranteed loan shall not be subordinate to any loan or other debt obligation.
>
> The DOE regulations state that DOE shall consult with OMB and Treasury before DOE grants any 'deviation' from the requirements of the regulations (to the extent such requirement is not specified by the statute) that would constitute a substantial change in the financial terms of the Loan Guarantee Agreement.
>
> But I will bet a quarter that the DOE lawyers have some kind of theory on how whatever restructuring they have done and whatever they are considering doing does not violate these requirements. Can't wait to hear it."

In other words, besides Valerie Jarrett and Ron Klain, many others in government with an eye for detail knew that the Solyndra deal was illegal. Some said as much to Treasury officials. But by August 2011, the taxpayers' money was lent—and effectively gone when Solyndra declared bankruptcy. No other company wanted to buy Solyndra, so its core assets were auctioned for a mere $3.8 million, which represented less than 1 percent of the loan guaranteed by the DOE.[xx]

The Department of Energy Digs a Deeper Hole

One might think the DOE would have learned a lesson from the Solyndra bankruptcy in early September 2011. Surely that would have been a good time to halt the DOE's loan guarantee program and understand why this program has become the poster child for cronyism. But instead of taking pause, the DOE recklessly issued another $8 billion of loan guarantees in that same month under the Energy Policy Act of 2005.

Why the haste to put taxpayers at even more risk? No doubt, the administration was aware that the legal authority for the loan guarantee program was going to end at the end of September 2011. Rather than try to understand why the program was defective, the administration, ardently committed to promoting renewable energy, rushed ahead where a more diligent government might have hesitated.

Twelve companies received loan guarantees in September 2011, including NRG Energy for $1.2 billion, NextEra Energy Resources for a partial guarantee of $1.5 billion, and Abengoa Solar (a second loan for $1.2 billion, following a first loan for $1.4 billion in December 2010). This brought to $16 billion the sum of guarantees issued by the government under the program since 2009, according to DOE spokesman Sonia Taylor.

Some might be Solyndras.

The DOE apparently did not learn from the example of Range Fuels, the cellulosic ethanol plant in Soperton, Georgia, or Beacon Power, which built a plant in Stephentown, New York, both discussed above. Neither did the DOE learn from the example of Evergreen Solar, which closed its doors and moved operations to China in January of 2011 after receiving $58 million in grants from the State of Massachusetts.[xxi] It filed for bankruptcy in January 2012, citing lack of financing as the cause.[xxii]

Bankruptcies are not limited to American companies. In December 2011 the first publicly traded German solar company, Solon, declared bankruptcy, citing competition from low-cost Chinese imports. Other German companies, such as Q-Cells and Conergy, may also follow suit.

Mimicking Failed Economies

Why is the government, under pressure from voters and credit rating agencies to reduce the budget deficit, issuing these loan guarantees at all?

One answer, we repeatedly hear, is fear of China, the new Red Scare. In the 1950s we were afraid that the Soviet Union might get ahead of us. "We will bury you," threatened Nikita Khrushchev.

Now America is throwing billions of dollars at renewable energy, electric cars, and high-speed rail, projects that are too weak to attract private funding, because we are concerned that China is getting ahead of us and stealing our jobs.

On October 3, 2011, in a TV interview with ABC, President Obama said, "what we always understood was that not every single business is going to succeed in clean energy, but if we want to compete with China, which is pouring hundreds of billions of dollars into this space, if we want to compete with other countries that are heavily subsidizing the industries of the future, we've got to make sure that our guys here in the United States of America at least have a shot."[xxiii]

Jonathan Silver, who was executive director of the Loan Programs Office at the DOE until his resignation in October 2011, testified at the Subcommittee on Oversight and Investigations of your Committee on September 14, 2011 that "no country has been as aggressive as China, which last year, alone, provided more than $30 billion in credit to the country's solar manufacturers through the government-controlled China Development Bank."[xxiv] Surely we have descended to great depths as a nation when we have lost confidence in our own reason and instead can think of nothing better to do than mimic the actions of a commercial rival.

China is not using solar energy for its electricity production. As of 2008, 70 percent of China's energy came from coal. Wind and solar provide less than two percent of the power for China's electricity.[xxv] [xxvi] China is producing solar panels and wind turbines to export to America and Europe, but it is not relying on these technologies for electricity production because they are a more costly way to generate electricity. Rather, it is importing our coal so it can produce inexpensive energy in its power plants. Another green energy project, China's high-speed rail investment, is on hold after a high-profile accident in Wenzhou in the Zhejiang province in the summer of 2011.[xxvii]

If we are afraid of China's growth, domestic industrial policy is not the answer. Rather, we should improve economic growth through more efficient tax and regulatory policies. The greater threat from China is that, out of fear, America will pursue government loan guarantee programs, which will slow our economy and make it less efficient. America is more likely to best China without government help. America

grows when it relies on the strength of market forces, rather than when our government attempts to pick winners. Loan guarantees are not a sign of confidence in markets but the exact opposite, and make no sense in these economic times, when corporations are flush with cash.

The reason that these renewable energy projects need to turn to the government for loan guarantees is painfully obvious. Their prospects are weak, and private investors and lenders do not want to fund the projects. If large gains were on the horizon, private firms would be vying for the opportunity of funding the projects. China and other countries might want to invest in projects that have no business logic, but American taxpayers deserve better.

Some of the new DOE loans may actually be repaid. But, like Solyndra, some will not. The Solyndra case demonstrates that government should not try to pick industrial winners. The temptation for politics to trump sound judgment and waste millions in taxpayer money is always there. The program should be ended as soon as practical.

Thanks for allowing me to testify today. I would be glad to answer any questions.

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Mr. STEARNS. Thank you.
Mr. Berlin, welcome.

STATEMENT OF KENNETH BERLIN

Mr. BERLIN. Good afternoon, Mr. Chairman, Ranking Member DeGette and members of the subcommittee.

My name is Ken Berlin. I am senior vice president and general counsel for the Coalition for Green Capital. The coalition has been working on a State and national level to establish what are now commonly called green banks. And they are basically funds that provide low interest loans to clean energy and energy efficiency projects. In particular, we have been working in a part of the market that has really not been discussed yet today. We are working to provide low interest loans to very low-risk energy generation projects, such as wind and solar generation projects.

As such, we are not seeking to provide this financing because commercial banks find the project is commercially too risky. Instead, what we are trying to do is provide funding because the clean energy projects we are dealing with need to lower their costs so that they can deliver electricity, first, at a price that doesn't raise cost to consumers and, second, still allow an adequate rate of return for investors who want to invest in the project. Because we have a rate at which you can buy electricity and because the investors have to get a rate of return, the only way to put all of this together and get an adequate rate of return is lower the cost and that is what we are trying to do in these projects.

I am pleased to report that in looking at green banks in this way, we are getting very, very strong bipartisan support. We passed the Nation's first green bank in Connecticut in 2011. It passed the Connecticut Senate 36 to nothing and the Connecticut House 139 to 8. The Waxman-Markey Climate Change bill and the amendment approved strongly by this committee included $7.5 billion in seed capital for a national green bank that passed on a bipartisan basis. And we are working now in probably a dozen States working very closely with both Democratic and Republican legislators to establish these banks.

Now, why are we getting this kind of support even though we are providing low interest loans to banks? And I think there are a couple of reasons. I lay out six in my written submission, but I just want to summarize a couple of them first.

Energy industries have been, as we all know, core industries in this country for many, many years. And all of those energy industries have received government support where needed. The clean energy industry is a potential, one of the potential great industries of the 21st Century. It is going to be a gigantic industry in the United States and around the world, and we think it deserves and needs support at this point in time.

Second, by providing this support, we are low-cost financing. We are benefiting everyone in the market. It helps consumers by lowering the kilowatt hour price of electricity. It helps private owners by giving them access to capital. It creates jobs and economic value by moving these projects from the board to the construction phase. It also helps, and we think this is very important, the private-sector spending and private-sector investment in research and devel-

opment and R&D, since greater demand for current technology sparks a virtuous cycle that would lead to next year's and next decade's breakthroughs. Most new breakthroughs in the energy area aren't great discoveries where all of a sudden you have got a new energy technology that is cheaper than anything out there. They slowly develop over time.

And it is our view that if you want to create innovation in this industry, you have to work with these technologies to bring—as they come down the cost curve. So what we are trying to do is lower the cost of these projects so that, in fact, they can come down. And in fact, all of these technologies are coming down the cost curve at a very, very rapid rate and will eventually be fully price competitive on their own.

Meanwhile, we are getting technology, innovation as we go forward. We are also, in doing this, really trying to meet a demand from the States. Approximately 30 States now have renewable portfolio standards. There is very strong demand to build clean energy for many, many reasons, including sustainability, clean energy, and other reasons. What we are doing by providing low-cost loans is making sure that States can implement these renewable portfolio standards without raising the cost of electricity to their consumers.

Loans may not be enough on their own, but at times they are, but they certainly make it much easier to reach those kinds of results.

The key mantra in what we are doing in all of this is that we cannot—we have to be repaid on these loans. We are working in an area where there is very low risk. There is tremendous experience in how these projects work. You can do potentially much more risky loans, but to do that, you need something very different. You need a different economic model for the loans. You need a model that takes into account some projects will fail. You need a portfolio approach. We think those kind of loans should be separated out from low-risk loans, and they should be put in separate windows if we do a green bank, and we think we need consensus in Congress.

Congress has to be willing to work on manufacturing projects and get the benefit from encouraging manufacturing in the U.S. What we would like to see avoided is a situation that we have now, where the United States has developed most of the major solar technology in the world. As of today, we don't have a single one of the largest 10 solar manufacturing companies in the world in the United States. There are actually ones here, but it produces outside the country. We want to see those technologies come back. We want to see manufacturing develop to. But the green bank is primarily is working on low-risk technologies. Thank you very much.

[The prepared statement of Mr. Berlin follows:]

Statement of Ken Berlin
Coalition for Green Capital Action Fund
One Page Summary
July 12, 2012

The Coalition for Green Capital Action Fund is an organization of clean energy executives and financial leaders committed to establishing entities that provide low interest rate financing to clean energy and energy efficiency projects. These entities have often been called green banks.

Green banks are designed to support projects that require low cost financing so that they can both provide a fair return to the private investors and still deliver cheap energy. Our basic mantra in developing green banks has been that all loans have to be repaid. And we have been proposing entities that could attract both public and private funds.

As the Subcommittee considers the role of the federal government in America's energy future, I urge you to focus on six points: (1) America needs growth industries and the clean energy industry is likely to be one of the great growth industries of the 21st Century; (2) low-cost capital for energy projects helps consumers and suppliers, lowers the price of clean energy, and creates jobs and economic value, and overcomes market failure; (3)green banks can and should be designed to protect taxpayers by focusing on technologies that are established and very low risk; (4) there is strong demand for clean energy projects at the state level including in states with both Republican and Democratic leaders and the federal government can help the states by providing low cost financing for the state efforts; (5) low cost financing is needed to cure a market failure that holds back innovation in the energy industry and which makes it difficult for even great new energy technologies to be successfully brought to market; and (6) low cost financing is not needed because energy generation projects are too risky to be financed by the private sector.

Statement of Ken Berlin
Coalition for Green Capital Action Fund
July 12, 2012

Good morning Mr. Chairman, Ranking Member Rush, and members of the Subcommittee. My name is Ken Berlin and I am the General Counsel and the Senior Vice President of Policy and Planning for the Coalition for Green Capital Action Fund. I previously served as the head of Environmental and Climate Change Practices at Skadden, Arps, Slate, Meagher and Flom.

The Coalition for Green Capital Action Fund is an organization of clean energy executives and financial leaders committed to establishing, at the state and federal levels, entities that provide low interest rate financing to clean energy and energy efficiency projects. These entities have often been called green banks, as in the bill introduced by Congressman Chris Van Hollen in January 2009, entitled "The Green Bank Act of 2009." Under another name, that legislation was passed out of committee by a huge bipartisan majority later in 2009, and included in the Waxman-Markey climate change bill.

During the past two years, we have concentrated our efforts at the state level, passing legislation to establish the first state green bank in Connecticut in 2011. We are now working to establish green banks in at least 12 other states.

Green banks are designed to support projects that require low cost financing so that they can both provide a fair return to the private investors and still deliver cheap, clean energy. Our basic mantra in developing green banks has been that all loans have to be repaid. And we have been proposing entities that could attract both public and private funds.

One thing that we have found in our work is that, as at the federal level, creating these entities draws strong bipartisan support from state legislators. In Connecticut where the state passed the first law establishing a green bank, the Senate voted 36-0 and the House 139-8 to support the bill. We have found similar bipartisan support in all the states in which we have been working.

As the Subcommittee considers the role of the federal government in America's energy future, I urge you to focus on six points: (1) America needs growth industries and the clean energy industry can be one of the great growth industries of the 21st Century; (2) low-cost capital for energy projects helps consumers and suppliers, lowers the price of clean energy, creates jobs and economic value, and overcomes market failure; (3) green banks can and should be designed to protect taxpayers by focusing on technologies that are established and projects that will result in the loan being repaid; (4) there is strong demand for clean energy projects at the state level including in states with both Republican and Democratic leaders and the federal government can help the states by providing low cost financing for the state efforts; (5) low cost financing is needed to cure a market failure that holds back innovation in the energy industry and which makes it difficult for even great new energy technologies to be successfully brought to market; and (6) contrary to some misconceptions, low cost financing is not a way to substitute for private capital on the grounds that energy generation projects are too risky to be financed by the private sector.

First, America needs growth industries and our energy sector needs more investment. In light of those two important needs, it is timely to consider policies that promote investment by the private sector in new energy projects. Every energy sector in

America -- and let me emphasize *every* energy sector -- has benefited from direct government assistance, and some energy sectors have been getting those tax breaks and other benefits for decades. But we don't know the extent to which direct government support will continue in this time of budget austerity. In this harsh budget environment, we see an important role for low-cost financing for energy projects to add to the tax policies that have traditionally supported the energy industry. Thus, while tax credits are an important tool to lower the cost of renewable energy projects, they need not be the only tool. Because clean energy projects are so capital intensive, another effective mechanism is to lower the cost of capital. Government entities that make loans at below-market rates along side private investment can accomplish this goal.

Second, low-cost financing for clean energy projects benefits everyone in the market. It helps consumers by lowering the kilowatt hour price of electricity. It helps project owners by giving them access to capital. It helps creates jobs and economic value by moving these labor-intensive projects from drawing board to the construction phase. It helps drive *private sector spending* and private sector investment in R&D, since greater demand for current technologies sparks a virtuous cycle that will lead to next year's and next decade's breakthroughs.

Third, we think that these low-cost financing programs can and should be designed to protect taxpayers by ensuring the loans get repaid. In that regard, I point to you two examples, one at the State level and one at the Federal level, to illustrate how these programs can work. In Connecticut, the legislature on a broad, bipartisan basis adopted legislation last year creating the Clean Energy Finance and Investment Authority. CEFIA is the nation's first full-scale clean energy finance authority. CEFIA encourages

consumers and suppliers to support clean energy and energy efficiency by offering low-cost financing opportunities. The Connecticut authority has the ability to give out low-interest loans to support proven clean energy technologies. But its purpose is broader: CEFIA will help stimulate demand for clean energy within the state and motivate private funding for clean energy technology.

Another example is the Overseas Private Investment Corporation. OPIC was created in in 1969 to provide international development finance. Since its inception, OPIC has supported over 4,000 projects providing $200 billion of investment in 150 countries and, in the process, generated $74 billion in U.S. exports and supported more than 275,000 jobs. Each dollar of OPIC support has catalyzed, on average, more than $2.50 in additional investment. Structured like a private corporation, OPIC budget is fully self-sustaining from its own revenues by charging interest and premiums for its loan activity and it operates at no net cost to U.S. taxpayers. In fact it has recorded a positive net income for every year of operation. The discipline of being self-sustaining has served OPIC well because it forces the agency to focus on commercially viable projects that have a high likelihood of pay back but are not able to access market financing for one reason or another.

Fourth, there is strong demand for clean energy projects in both red and blue states. Over 30 states have created renewable portfolio standards, which reflect that demand. There is very strong demand for clean energy projects in red states like Texas and North Dakota. Low cost financing helps ensure that this demand can be met without raising the cost of electricity to consumers.

Fifth, support for clean energy projects is necessary if we hope to create new clean energy industries, not only because they are demanded by the states, but also because they are needed to keep the American economy the strongest in the world. Without government support while the cost of clean energy drops, as it is rapidly doing, the U.S. will neither have a sustainable economy nor create clean energy industries. In the energy market, where consumers get only identical electrons and not differentiated electricity depending on the mode of generation, even great new technologies cannot be brought to market if they are even slightly more expensive then existing technologies. That is why retail prices matter. Technology development will be stifled, industries lost and the U.S. will lose competitiveness if it cannot first introduce and then bring down the cost curve new energy technologies.

Sixth, it is not true that green banks substitute for the refusal of commercial banks to finance energy generation using proven clean energy technologies. Green banks do not crowd out private lending; they facilitate it by lowering the overall cost of capital and thus making the off-take price competitive. Energy generation projects are extremely low risk. Instead, low cost financing is needed to lower the cost of the project enough that the sponsor can get a fair rate of return without raising the delivered cost of electricity.

We have argued for support of risk free clean energy technologies and that is the focus of the work of our Coalition. Higher risk energy manufacturing projects, however, can be supported, but they need a different model, a different "window" in a lending entity, and a different commitment by the Congress. Risky projects either need a venture capital type model that protects against failure by taking an interest in successful

companies or a model that includes large reserves that protect against risk. There will be failures in such projects, but with the right model, a portfolio of projects can on an overall basis be protected against undue risk. To ensure that decisions involving high risk projects are strictly made for economic reasons, we recommend that such an entity be independent of government micro-managing and structured to permit effective project selection by normal private sector techniques.

In conclusion, we think there is a big role for government-supported low-cost financing now and in the future and we think this Committee should seek ways to promote that financing. Given the uncertain prospect of tax support for many clean energy projects, we think the time has come to focus attention on a sustainable way to provide low-cost financing to these projects while also benefitting consumers, promoting job creation, ensuring technological innovation, and protecting taxpayers.

Mr. STEARNS. I thank you.

And I will start my questions.

Miss Furchtgott-Roth, the President of the United States, in a press conference criticized me. He said, the chairman of the Oversight and Investigation committee thinks we can't compete with China in a green energy policy. I think he is wrong, and I think the United States can compete.

Isn't it true that China is not using solar energy for its electricity production?

Ms. FURCHTGOTT–ROTH. That is true. Less than 2 percent of Chinese electricity production is from wind and solar and other renewables; 70 percent is from coal.

Mr. STEARNS. Isn't it true also that China is importing coal from the United States to meet their electricity needs?

Ms. FURCHTGOTT–ROTH. That is correct and they want to import the oil from Canada that we cannot have down here because the Keystone Pipeline has not been approved.

Mr. STEARNS. China is subsidizing their solar industry pretty significantly. I understand it is $30 billion, is that correct?

Ms. FURCHTGOTT–ROTH. Yes.

Mr. STEARNS. Is China producing solar panels and wind turbines for their own use or to export to America?

Ms. FURCHTGOTT–ROTH. They are using some for their own use, but most of the vast majority is for export to America.

Mr. STEARNS. So what they are doing is subsidizing an industry to make it cheap so they can export to America?

Ms. FURCHTGOTT–ROTH. That is right. So we can produce more expensive energy; whereas they have the inexpensive energy that powers their economy.

Mr. STEARNS. So if the President is criticizing me for saying we can't compete with China, seems like a non sequitur because China is really just subsidizing so they can compete with us and sell it to us cheaper than we can manufacture it. Is that a fair estimate?

Ms. FURCHTGOTT–ROTH. That is correct, yes.

Mr. STEARNS. Then why should the United States try to compete with China when they are not really trying to do it themselves, and they are relying on coal, which we have an abundance of? So what would you say to the President after he said that he thinks we can compete with China?

Ms. FURCHTGOTT–ROTH. We can compete with China in many, many ways. We do not want to implement wind and power and solar energy. The Chinese are not the doing that. The best way for us to compete with China is to use our own coal, use our domestic resources. We have far more innovation than China does. We have far more creativity, and these are the ways in which we compete with China; not by putting in place expensive forms of energy that drive up energy costs for American households.

Mr. STEARNS. OK, let me ask you a little tougher question, which will come from this side. How do you respond to proponents of Federal loan guarantees who contend that unless the United States Government subsidizes clean energy projects, the U.S. will lose the clean energy race to China or Spain?

Ms. FURCHTGOTT–ROTH. Clean energy projects haven't been successful in Spain. They are not competitive energy-wise here.

In a couple of weeks households, around the area are going to get that electricity bills from the heat wave. They are going to have very high electricity bills from keeping on the air-conditioning, those who did not lose their power. If we had wind and solar powering our electricity, their bills would be two or three times as high.

Mr. STEARNS. But you hear Mr. Berlin saying that we are into a gigantic industry of this green energy.

Let me ask Mr. Kreutzer. How would you respond to the proponents of Federal loan guarantees who contend that loan guarantees do not cost the government much since the loans are supposed to be repaid?

Mr. KREUTZER. Well, unfortunately, we have seen that they don't always get repaid. The Solyndra loan is costing us, it looks like over $500 million. The indication is that they are not going to get much out of the bankruptcy. Abound Solar, not going to get much out of it. So we see a pattern of the loans not being repaid, but I think even more fundamentally, we see loans going to people that don't need loan subsidies. We are giving loan guarantees to companies worth tens and hundreds of billions of dollars.

Mr. STEARNS. I think that was in your opening statement. You talked about the Federal Government providing loan guarantees to companies worth $10 billion, $20 billion, $200 billion to finance projects.

Mr. KREUTZER. Right.

Mr. STEARNS. So why should the United States Government go to the free market that have market caps that are $200 billion? Why is the President talking about doing this under this Section 1705 program?

Mr. KREUTZER. I don't understand why myself, and I saw Mr. Frantz at a presentation saying that two of the criteria that these loans had to meet was they had to be commercially viable and they had to demonstrate they couldn't get private financing. Well, those are mutually exclusive. You can't have a project that is both of those, so you are going to be funding one or the other. You are going to be funding projects that aren't commercially viable, which you don't want to fund, or you are going to be funding projects who can get private financing if they were viable. In either case, we shouldn't be funding them.

Mr. STEARNS. What we have is a discussion draft here with the No More Solyndras Bill. And we are trying, Mr. Upton and I are trying to come up with the help of all of the members here. Do you think in this package, we should put some criteria that if any loan guarantees go out that subject to the market cap, or if a company is worth $200 billion, it shouldn't get—I mean, is that a criteria we should use? Do you feel strongly about that?

Mr. KREUTZER. I feel more strongly of just not having them go out. I don't think it is an appropriate area for government activity to guarantee loans for commercially viable projects. This is not a loan program similar to basic research, which is a completely different question, but trying to come up with a loan program for commercially viable projects is one that the government shouldn't be involved in in the first place.

Mr. STEARNS. Such as picking winners and losers, so to speak.

Mr. KREUTZER. Picking winners and losers, yes.

Mr. STEARNS. I will just conclude by——

Mr. WAXMAN. Regular order, Mr. Chairman?

Mr. STEARNS. Yes, I am in the chair, Mr. Waxman.

My only point then is if the government goes out and gives this money to small companies, you are recommending that they give the money to research and development that would impact the innovation in this country, rather than giving it to companies that have limited market cap or viability. Isn't that what you are saying?

Mr. KREUTZER. The closer the research gets to the basic fundamental research, the better the argument is for government involvement.

Mr. STEARNS. Yes.

Mr. KREUTZER. The closer you get to the market implementation, the worse argument there is for government involvement.

Mr. STEARNS. All right, my time is expired.

And Mr. Waxman.

Mr. WAXMAN. Thank you, Mr. Chairman.

I want to ask some questions about this proposal that is before us because we have a very specific bill.

Mr. Berlin, the Republican loan guarantee bill would change the program. The loan guarantee program itself was created to support innovative research, innovative energy technologies, and that is why Congress established the program on a bipartisan basis in 2005.

Under this bill, the program can continue to issue tens of billions of dollars in loan guarantees in the years to come, but this bill prohibits DOE from considering any applications for loan guarantees submitted after December 31, 2011.

So the Republican bill creates a winner's list of a few dozen projects that are eligible for future loan guarantees.

Those are the only applications DOE can ever look at. Any project not on the list can't get a loan guarantee, period. It doesn't matter how groundbreaking the technology is, if it isn't on the winner's list, it can't receive support.

Does this approach make sense? Should Congress prevent DOE from considering new applications for breakthrough technologies?

Mr. BERLIN. I think it is very important for us to think through how we want to encourage innovation in the United States and how we want to get innovative new technologies built and developed. And I think that there are situations where there is a need for government funding to help get these kinds of projects off the ground.

Mr. WAXMAN. You wouldn't limit it to just those applications that are there now?

Mr. BERLIN. I am sorry, I apologize?

Mr. WAXMAN. You wouldn't limit the loan guarantees only to those applications that are sitting at DOE right now?

Mr. BERLIN. No, that is the reasons people have said, if you accept that there is a need to support innovation, it doesn't make much sense in my view to cut it off now when you might have a new innovative project that comes up tomorrow that is better than a project that you have in the pipeline now.

Mr. WAXMAN. This throws innovation out the window, and it replaces it with a static list of winners who happen to submit applications by the end of 2011.

Dr. Kreutzer, you wouldn't want this bill to continue funding projects that are at DOE now? You don't think we ought to have a loan guarantee at all, isn't that right?

Mr. KREUTZER. Yes, if we are talking about going forward, I am not sure we want to go back and undo things and agreements we have already made.

Mr. WAXMAN. No, this is not an agreement. Excuse me. This is not agreements that we have made.

Mr. KREUTZER. Right.

Mr. WAXMAN. These are applications for loan guarantees. And so the bill allows more loan guarantees, but only for those that are pending at DOE. Do you think that that makes sense?

Mr. KREUTZER. I think you have to have a cut-off point at some point. So if you want to go back and cut it off, the ones that have already received the loans, you know, that would be one case. I don't know that that is less picking winners and losers than having a cut-off at December 31st. That is a separate question. I am generally arguing that loan guarantees are a bad idea from the government; that innovation will take place in private markets.

Mr. WAXMAN. If we agree with you then, we should just end the program, isn't that right?

Mr. KREUTZER. Yes.

Mr. WAXMAN. OK, Mr. Berlin, the premise of the Republicans' bill is that the loan guarantee program has been a big failure. What do you think? Has the overall portfolio of projects been a failure?

Mr. BERLIN. Well, one of the studies I have read estimates that about 87 percent of the projects that have been funded by this really fit in the low-risk category. The energy generation projects we should see major developments, for example, in large-scale solar projects as a result of the legislation. So I certainly would not call it a failure.

Mr. WAXMAN. Some argue that the government has no role to play in supporting next-generation clean energy technologies because these technologies are inherently risky, or they could get their own capital, and they don't need government intervention. Some of the same people say we should continue using taxpayers funds to provide subsidies to well-established oil and gas companies that have received government support for decades.

Mr. Berlin, how can the government best create a level playing field where new clean energy technologies can succeed?

Mr. BERLIN. Well, again, I think new energy technologies do need subsidies for the reasons that I said earlier, which is they come in when they are first developed, they come in at a more expensive level almost every time than existing technologies. We know they are going to move down a cost curve. That is what happened with existing technologies. And we have to bring them down the cost curve so they become competitive. And at the end, there will, in fact, be a very, very large worldwide market for these technologies.

I don't agree, for example, that China is not putting solar in place in China. They are putting considerable solar in place. I don't

agree that they are shipping solar to us at a much cheaper price than we could sell in the United States; it has raised the cost of energy more than if they had not shipped to the United States. So I do think we have to be involved in this, in this effort.

Mr. WAXMAN. I would like to ask Ms. Furchtgott-Roth, do you think we ought to continue subsidizing oil and natural gas through the tax breaks that we give them?

Ms. FURCHTGOTT–ROTH. I don't think oil and gas should have special tax breaks. I think they should have the same tax breaks as other domestic manufacturing or other industries such as the pharmaceutical industry.

Mr. WAXMAN. You just think we ought to have a level playing field and let everybody compete; is that right?

Ms. FURCHTGOTT–ROTH. Exactly, yes, yes. And just as the domestic manufacturing has a 9 percent deduction, I think oil and gas should also, being a domestic manufacturer, have a 9 percent deduction. Instead, it has a 6 percent deduction, and President Obama wants to get rid of that. That puts it on an unlevel playing field with the rest of domestic manufacturing, which would be unfair to the oil industry.

Mr. WAXMAN. And, Dr. Kreutzer, do you agree with that?

Mr. KREUTZER. I absolutely agree with that, that the section 199 tax deduction, where you get the big numbers that are called the oil and gas subsidy, the domestic solar panel manufacturers, windmill manufacturers, newspaper companies, they all get this 199 deduction. And as Ms. Furchtgott-Roth pointed out, they get a bigger one. So I think it is disingenuous to call that an oil and gas subsidy.

Mr. WAXMAN. OK. Thank you.

Thank you, Mr. Chairman.

Mr. STEARNS. And Mr. Whitfield is recognized for 5 minutes.

Mr. WHITFIELD. Thank you very much.

I want to thank the panel for being with us this afternoon.

And I want to ask you, Dr. Kreutzer and Ms. Furchtgott-Roth, realizing that this legislation, the No More Solyndras Act, may not be perfect, but would both of you agree that at least it is a step in the right direction?

Dr. Kreutzer?

Mr. KREUTZER. Yes, at Heritage, we are not allowed to support or oppose specific legislation, but I think the policy of cutting off loans is a good one. The fact that you may not cut them off at the exact same point that I would choose doesn't mean it is not a good idea.

Mr. WHITFIELD. Ms. Furchtgott-Roth?

Ms. FURCHTGOTT–ROTH. Yes, I think it is a great bill. And companies play along with the rules that they are given. Up to now, we have had the rule that we have had loan guarantees available. Companies have gone to a great deal of trouble of putting together applications. It seems sensible to allow those who have made that investment to still be on the list. It is not a matter of picking winners and losers; it is a matter of the time invested by those companies. Then, after December 31st, the program is cut off.

Mr. WHITFIELD. Mr. Berlin, in responding to Mr. Waxman's question, talked about that he thought maybe 87 percent of these

projects out of the 1705 loan guarantee program had been successful, and that was because a lot of them were low-risk. That is one of the reasons that I am quite concerned about this program, because most of those very significant loans were made to well-capitalized companies, most of them on the New York Stock Exchange, like Google, General Electric, subsidiaries of Berkshire Hathaway, Goldman Sachs.

And at a time when we have a $16 trillion Federal debt and this President, particularly, talks about protecting the middle class, why would we be making loan guarantees to companies that strong financially?

Dr. Kreutzer?

Mr. KREUTZER. I would agree, Mr. Chairman. And it gets back to the false premise on which the loan guarantee was based, that there are market-viable projects that can't get private financing. They simply don't exist on a regular basis. If it is a low-risk project and you have a well-capitalized firm and it is market-viable, they shouldn't need a guarantee. There should be private financing for it.

Mr. WHITFIELD. Mrs. Roth?

Ms. FURCHTGOTT–ROTH. Yes, I would certainly agree with that. At the time the program was put in place, in 2005, we had no idea that we would have a 200-year supply of natural gas at about $2 per million BTUs. We were concerned about energy security. With our domestic resources now, with the great American energy revolution that has occurred the past 3 years, we have immense supplies of inexpensive domestic energy. We don't need this program anymore.

Mr. WHITFIELD. Yes.

Well, you know, people who support 1705 say, well, it was a bipartisan bill in Congress, and that was a number of years ago. It was approved. But I can tell you what, if we were voting on that today, because of today's current financial situation in America, I do not believe the results would be the same.

Now, when we have debate here in this committee about regulations coming out of various Federal agencies and the purpose of the stimulus funds, we hear about creating new green jobs. That is what everyone talks about. And I have heard comments that, oh, 3 million new green jobs have been created. And when I read some of the definitions of new green jobs, like antique shop workers because they are recycling, septic tank workers, janitors, bus drivers, teachers in environmental studies, that is totally misleading the American people.

So let me ask you all, do you think that these stimulus packages and these loan guarantees have been successful in creating significantly new green jobs for America?

Mr. KREUTZER. I would say no. And I would say they don't—they certainly don't create jobs in aggregate, because, you know, if you subsidize one group, you have to take the money from someplace else.

But when you start looking at that green jobs count, it wasn't just the categories of green jobs but it was the volume. Over 50 percent of the jobs in steel mills were counted as green.

Mr. WHITFIELD. Right.

Mr. KREUTZER. There were 33 times as many green jobs in septic tank and portable toilet cleaning as in solar utilities. So the 3.1 million, nobody should even say that number with a straight face any longer.

Mr. WHITFIELD. Well—oh, go ahead.

Ms. FURCHTGOTT–ROTH. I would agree with that. A large part of the 3.1 million green jobs is relabeling. People who produce this cup that has the message, "We have the power to save energy," that counts as a green job because it has an environmental and educational message on it. If the cup, on the other hand, just had "Architect of the Capitol" on both sides, its producers would not have green jobs. And this number is a fraudulent number. It is imprecise. It shouldn't be used.

Mr. WHITFIELD. And the American people are blatantly being misled.

Thank you.

Mr. STEARNS. Mr. Sarbanes from Maryland.

Mr. SARBANES. Thank you, Mr. Chairman.

If the panel would bear with me for one moment, I wanted to return to some earlier testimony. Mr. Scalise earlier repeatedly claimed that the Department of Energy had received a legal opinion from outside council that determined that subordination was illegal.

And I would like to make this part of the record.

Mr. Scalise's claims are incorrect. The committee received a rough draft of a contractual and legal analysis produced by DOE's outside counsel. This document noted the language in section 1702 prohibiting subordination during the origination of the loan, but it did not speak to the DOE legal analysis, which concluded that subordination of the loan during restructuring was allowed under the law. The document is not a legal opinion, and it does not declare subordination to be illegal in a restructuring scenario.

The committee staff interviewed the loan program's chief council for nearly 6 hours. In those interviews, she indicated that outside counsel, as well as the general counsel of the Department of Energy, reviewed and concurred with the legal opinion that subordination during restructuring was allowed under the law.

Furthermore, Mr. Chairman, the minority reached out to a former general counsel of the Department of Energy now in private practice. She conducted an independent analysis of the subordination question and found DOE's opinion to be proper and correct.

All of these documents have previously been made public. In order to set the record straight, I would ask unanimous consent to introduce the outside counsel's rough draft analysis document, two subsequent emails from DOE's outside counsel, DOE's formal legal opinion, and the opinion of the former DOE general counsel into the record of this hearing.

Mr. STEARNS. It is already—my staff has said it is already part of the record.

Mr. SARBANES. Well, in the event——

Mr. STEARNS. Secretary Chu, we had him up; we put that in part of the record.

Mr. SARBANES. Mr. Chairman——

Mr. STEARNS. Unanimous consent, let's put it in again.

Mr. SARBANES. Great. Thank you.

Now, moving to the panel with my remaining time. Dr. Kreutzer talked about two categories of projects, and he suggested that there are only two categories of projects in the world. One are those that do not require government support through a loan guarantee program or otherwise, because they have the sort of backing out there that would allow them to move forward. In the absence of that, in the other category of projects are ones that are not commercially viable. And he implies that those projects can only be ones that are never going to be commercially viable.

But I think you ought to—we need to parse that further, divide it into two subcategories: those projects that may never be commercially viable—and, obviously, you would want the Department to scrutinize it to try to ascertain that on the front end, if possible, because sometimes you never know. But I think there is another category of projects which are not yet commercially viable. In other words, for purposes of the launch of that technology, you would say, well, if they were launching by themselves with no kind of guarantee or other supports, there is no way they could make it in the market, but the fact that they are not yet commercially viable does not mean that they will never be commercially viable.

And I would like you, Mr. Berlin, to speak to that, because, you know, you move in a space were analysis of what can be viable if you get it launched is done all the time. My understanding is you participate maybe after the launch stage in bringing things that are already kind of out in the market, bringing that cost curve down over time to accelerate the competitive position that they can hold relative to the rest of the market. But, certainly, you must have a view that there has to be a category of projects, while maybe not yet commercially viable, certainly could be one day. And that is the role that can be played by these very valuable and very important loan guarantee programs.

Mr. BERLIN. Yes, I mean, I 100 percent agree with that. We are actually not setting these up, so we are not doing this directly ourselves. But I think if you look at wind and solar technologies right now, they are more expensive—the delivery cost of electricity from wind and solar projects without subsidies is higher than delivery cost of electricity from existing generation. There is virtually no doubt in my mind that over time these projects will become fully competitive.

And what we really mean in the real world when we talk about "commercially viable" now is this: Let's say we have a project out there, and a company looks at it and says, if I build this project using commercial loans, I will get a 9 percent rate of return. I am not going to do a project unless I get a 10 percent rate of return, because that is the minimum that I will do a project. That is the reason you help the companies sometimes in this, because otherwise they just won't do the project. So we come in as a bank and we say, we want to put a tranche of that loan, a percentage of that loan, at a low interest rate so we can bring the cost down so that both the project sponsor will build the project and the consumers will get energy at a price that is competitive with their current price.

So it is both. One is, the division may be very small before things are commercially viable. But even when it is larger, like in some of, you know, in some of the technologies, those costs are coming down. If you look at the curves on all those, they are all coming down.

And if you look at the history of the energy industry in the United States, we have subsidized every technology. We have the same problem with nuclear now, we have the same problem with carbon capture and sequestration as they do with clean energy. If we want to develop those projects, we will ultimately have to—I am not making a choice whether we want to, but if we want to develop those, we have to figure out a way to bring those things down the cost curve. Hopefully, they will get there. We don't know for sure with those. We do know they will get there with wind and solar.

Mr. STEARNS. Thank you. The gentleman's time has expired.

And the gentleman from Texas, Mr. Olson, is recognized for 5 minutes.

Mr. OLSON. I thank the chairman.

And good afternoon. Thank the panelists for coming back. I appreciate your patience and, most important, your expertise.

And I represent Texas 22, which is a suburban district, the home of the Johnson Space Center, human space flight. And so, using an analogy from back home, the people I represent are outraged, they are angry that $500 million of their taxpayer money was so callously wasted on loan guarantees that the administration and the people of Texas 22 knew were as risky as betting our future space exploration on three magic beans. It is my job to get them answers of how this money could be so callously spent, and I appreciate your insights to help me respond to them.

So my first question is for you, Mrs. Furchtgott-Roth. I was intrigued by your testimony. Your testimony mentioned the perils of, quote/unquote, "industrial policy." Could you elaborate on what you mean by "industrial policy" and why policymakers should be very wary about going down this road?

Ms. FURCHTGOTT–ROTH. Yes. Industrial policy is picking out winners and losers. For example, there are many projects in the United States that are not commercially viable right now that might be in the future. We have venture capitalists, we have private equity firms. It is up to them to choose which of these ventures to invest in, not the Federal Government. The Federal Government has a role in basic research but not in investing in enterprises that might some day be profitable.

Amazon.com, for example, when it started out, was not commercially viable. It became commercially viable over time. It is a blockbuster now because of private funding. This little BlackBerry 201, it probably wasn't very commercially viable when it was first started out. Now, many people have them. It might go down because RIM is having trouble. It doesn't mean the Federal Government or the Canadian Government should be propping up RIM.

Mr. OLSON. Do you believe the Obama administration has learned a lessen from the bankruptcies of Solyndra, Abound Solar, and Beacon Power? Or do you believe they will simply double down going forward here?

Ms. FURCHTGOTT–ROTH. Well, I don't think that they were investing in these for cost-benefit reasons. They were investing in it for political reasons because some of their supporters, perhaps their campaign contributors, such as George Kaiser with Solyndra, had an interest in these projects. So I do not think they have learned their lesson.

There are always pressures for the government to invest in worthless projects, and it is up to all of you to take a stand against it.

Mr. OLSON. And so you are saying some political operations or some political pressure was being forced upon the administration; that is why they have made these decisions that weren't economically viable in a free-market economy, correct?

Ms. FURCHTGOTT–ROTH. I believe that that is one reason, yes.

Mr. OLSON. Any idea why—Bush rejected the Solyndra proposal in January of 2009, and yet the Obama administration revived it by March of 2009. Any idea why they revisited Solyndra as being economically viable at that time, why they thought it could make money?

Ms. FURCHTGOTT–ROTH. George Kaiser was a big investor in Solyndra. He made many visits to the White House, which are documented in White House records. And that is perhaps one reason. You can read the entire email trail where there was pressure to have Vice President Biden appear at a Solyndra event in September, and that was why there was a rush. Many OMB career officials were on record of saying this was too rushed and they did not approve of the project. DOE apparently overruled them.

Mr. OLSON. Yes, ma'am. There was evidence that they, when Solyndra announced that they were going to close down some of the manufacturing facilities, that they delayed the closure until November 3rd of 2010, the day after the election.

A question for you, Dr. Kreutzer. I just want to ask, who is better suited to discover commercially viable investment projects, private investors or the Department of Energy?

Mr. KREUTZER. I would say private investors. They are subject to a discipline that the Department of Energy is not. That is, they get a great reward when they hit a home run, and they suffer a penalty when they strike out. And so they have a huge incentive to make sure they are sorting out as best as they can the home runs from the strikeouts, and the Department of Energy does not have that same discipline on them.

Mr. OLSON. How do you respond to proponents of Federal loan guarantees who contend that, similar to venture capitalists, some loss of taxpayer money should be expected in financing risky adventures?

Mr. KREUTZER. Well, it is funny, venture capitalists have equity positions so that when they get the home runs, they get a whole lot of money. And maybe that is how they cover the cost of the losses. We are lending essentially at Treasury bond rates, almost, to high-risk ventures. That simply doesn't make sense whether you are—certainly not if you are a venture capitalist. It doesn't make sense if you are a taxpayer either.

Mr. OLSON. Thank you. I am running out of time, but thank you for your answers. I appreciate you giving your patience with us going through the votes.

I yield back.

Mr. STEARNS. I recognize the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman.

And, Mr. Chairman, I know in our subcommittee typically we swear witnesses. And I would like to ask Ms. Furchtgott-Roth, you made some statements about—and you, Dr. Kreutzer, also—about how this decision was made. Are you all privy, either of you all privy to information on how this decision was made?

Mr. KREUTZER. I don't believe I have made any comments on how the decision was made. I have talked in general about markets versus government, but I have no opinion on the motivation behind this.

Mr. GREEN. OK. Because our investigators did a lot of investigating, and your testimony is directly conflicting what our investigators said.

So, Ms. Furchtgott-Roth, do you have any individual information that maybe would help us on this? You made some statements about the decision was made, somebody made a visit to the White House, and that a great many of the Department of Energy staff opposed this. Is that true? Did you hear that from somebody?

Ms. FURCHTGOTT–ROTH. I made the statement that the Office of Management and Budget staff opposed approving Solyndra. That is in the emails collected by your committee and that have been released to the public.

I also made the statement that George Kaiser was a major contributor to President Obama's campaign. That is a matter of public record, that he made numerous visits, and I have the number, to the White House before the loan was approved. That is also a matter of public record.

Mr. GREEN. Well, some of the judgments you are making are based on that information——

Ms. FURCHTGOTT–ROTH. Correct.

Mr. GREEN [continuing]. And—but I have to admit, I was disappointed, as my colleagues are, about the Solyndra problem. But I also know that this law we have was passed by this committee in 2005. And, frankly, the Members that are here today, except for my colleagues that are new, Congressman Olson, actually supported this law in 2005 that put these loan guarantees in place. And I supported it also, because I am a big one for nuclear power in our country, and that was part of it. Of course, I also come from Texas, where we have had a huge expansion of wind power that has been not only based on State assistance but also Federal assistance, because we made a decision that that is another way we can be the energy capital of the world. And whatever it is called, whether it is oil and gas, energy, nuclear, I would love it to be in Texas.

But let me just say that in 11 interviews with career staff, about 50 hours, there was no evidence that our staff could come up with that there was any Kaiser influence on the approval at the Department of Energy.

And you acknowledge that. You are shaking your head "yes," so I assume that you acknowledge that that——

Ms. FURCHTGOTT–ROTH. Oh, it is probably just a coincidence that Mr. Kaiser made so many visits to the White House and that he was a major investor. It is probably just a matter of coincidence. I acknowledge that.

Mr. GREEN. Yes. I have been around here a long time, and a lot of people visit the White House for lots of things. And, you know, I am sure there would be more information if we could do that.

Let me get back to some of the concerns I have, though, about—and I know that was heard earlier—China's investing. And somebody invested in a lot of companies in China. The top 10 solar panel producers are from China; is that correct?

Ms. FURCHTGOTT–ROTH. I don't have the precise number in front of me.

Mr. GREEN. And China is not a free-enterprise country. So I assume the Government of China or the People's Army invested in that. So wouldn't that be a significant amount of government support in China for solar panels?

Ms. FURCHTGOTT–ROTH. Oh, yes. It does have a significant amount of government support. But it doesn't mean that we need to support it here.

Mr. GREEN. Well, let me give you an example, though, that one of the reasons—and would either of you or all three of you—part of the problem Solyndra had was that they were producing panels that could not compete with Chinese solar panels.

Mr. KREUTZER. Solyndra couldn't——

Mr. GREEN. Dr. Kreutzer?

Mr. KREUTZER [continuing]. Compete with solar panels made in the U.S. They were the high-cost producer even in the U.S. So, with or without China, they did not have great prospects, all right? They had a new technology, and its competitiveness depended on the polysilicone prices staying very high and getting higher. Really, they could have gone out of business anyway. But in any event——

Mr. GREEN. Well, but, again, the top 10 solar producers in the world are in China, and they have access to our market.

Mr. KREUTZER. I don't think we should take China as the economic model to follow.

Mr. GREEN. Oh, I agree.

Mr. KREUTZER. OK.

Mr. GREEN. In fact, I believe in our free-enterprise system; if somebody loses money, they lose it. But in China, if you had lost $500 million, I don't think we would see you ever again, because that is the punishment.

Mr. KREUTZER. Perhaps. I don't—I don't have—I am not an expert on Chinese law.

Mr. GREEN. I know people talk about in Texas we have the death penalty. We do have appeals processes. Sometimes China imposes a penalty before you could ever have an appeal.

Mr. KREUTZER. That is probably true.

Mr. GREEN. Mr. Berlin, I thank you for coming here today. I come from Houston and east Harris County. We have an energy economy. I have 5 refineries and 20-plus chemical plants, and what I don't have my colleague Congressman Olson has. We are pri-

marily oil and gas, but our port and our chemical manufacturers stand to benefit also from alternative energy sources.

I remember a few years ago there was a hesitation on doing cogeneration, 25, 30 years ago. And now most of my plants use cogen in their area, which—we were working in an energy bill to get them credit for the savings they would get from using cogeneration.

So I am seeing a change in the industry that is all of the above. And even though I—oil and gas doesn't get loan guarantees, but—and I agree with your opinion on the tax issues, because I have said that, the same thing. All we want is the same domestic manufacturing tax rate that everybody else pays in the oil and gas industry.

But the Republican bill on the loan guarantee effectively ends the program. Is the loan guarantee program good policy?

I apologize, Mr. Chairman. I have run out of time.

Mr. STEARNS. The gentleman's time has expired.

And I recognize Dr. Burgess for 5 minutes.

Mr. BURGESS. I thank the chairman for the recognition.

Mr. Berlin, I thought my Miracle-Ear had messed up. Did you say that there was bipartisan support for an amendment to the Waxman-Markey bill? Did I hear you say that correctly?

Mr. BERLIN. The amendment that included $7–1/2 billion for the green bank I think passed through this committee as part of a—there were other provisions included. I think it passed through 44 to 8 or something like that in the committee. In the committee, not on the floor.

Mr. BURGESS. Not on the floor——

Mr. BERLIN. Right.

Mr. BURGESS [continuing]. Because the bill came up under a closed rule——

Mr. BERLIN. Right.

Mr. BURGESS [continuing]. And we were not allowed——

Mr. BERLIN. I am sorry, not on the floor.

Mr. BURGESS. There were big objections. We were not allowed to amend Waxman-Markey as it came through on the floor of the House.

Mr. BERLIN. In the committee.

Mr. BURGESS. OK.

Ms. Furchtgott-Roth, I mean, as you know, I drew attention to some of the memos, as well, when we were questioning the other witnesses. And I would just, for the point of emphasis, you have an evidence binder at the table there. Under tab 7 is I believe the email which you referenced, which is an email on August 31st of 2009. The names are redacted, but my understanding is it is from an energy branch chief at the Office of Management and Budget to his immediate superior issued 4 days prior to the closing of the loan on Solyndra.

And in the email, it says, "I would prefer that the announcement be postponed. The credit crew is out on leave this week. This is the first loan guarantee. We should all have a full review and all hands on deck to make sure we get it right. Furthermore, the announcement this week would require us to have a waiver to the requirement in the rule that 30 days elapse from when the final credit rating is submitted, setting a bad precedent."

So it sounds like the system was blinking red. It sounds like the traffic cop held his hand up and said, "Stop. Don't do this."

What we don't know and what this committee has endeavored to find out is where the pressure was coming from to make that decision so important that we couldn't even follow the simple rules that were outlined for this procedure. Is that one of the points that you were trying to make in your testimony?

Ms. FURCHTGOTT–ROTH. That is correct, yes.

Mr. BURGESS. And it has been so hard to get the information. Committee staff has made inquiries starting back to when the Republicans gained the majority in the House and gained the majority on the committee, beginning with those document requests back in February. By July, we had members of the Office of Management and Budget, members of the Department of Energy who were no-shows to our committee when we were trying to get answers to some of these questions. The very first emails were kind of dribbling out and we were getting these impressions.

But it was because, the day we were to have that hearing, this witness table had no witnesses that I was forced to offer a resolution leading to the subpoenas that then allowed us to get the information that you were quoting.

So it is disingenuous for anyone to say that this committee has not done its work of oversight, its constitutionally authorized work of oversight, in order to, no, not just to embarrass the administration, but to find out where the problems were. Because this sounds like someone was saying "whoa" and someone else off stage was saying "go." And that, of course, has been what this committee has been trying to discern. I can't say at the end of the day if we will ever identify the person with their fist on the "go" button, but clearly that is what was going on.

And then the other part that is so important about this email—and we heard the testimony on the other panel that, oh, wait a minute, hindsight, you can always do good in retrospect. But you didn't—foresight. I mean, the quotes, the citations at the bottom of the email: "China racing ahead of U.S. in the drive to go solar"; "Chinese solar firm revises price remark"; "As prices slump, solar industry suffers"; "More sun for less." And each of these titles is followed with a Web site: New York Times, New York Times, Green Inc. blog, New York Times. Each of those is followed with a Web site that was easily referenced by anyone who received this email.

Again, the system was blinking red: You are going down a road where the price is being undercut by a foreign competitor; and whether it is legitimate or not, whether it is an adverse government subsidy on the part of the Chinese, nevertheless, the market is in peril.

Would you agree with that assessment?

Ms. FURCHTGOTT–ROTH. Yes. Yes. Well, I would—those emails are absolutely right, and there are many others that you could have quoted that also demonstrate this same issue.

2005 was a very different time. I think now it is clear that solar panels are much—solar power is a far more expensive form of energy. Whenever the government is in charge of giving out money, then there are always going to be pressures to pick winners and not do it on a straight cost-benefit analysis. That is why this bill,

No More Solyndras, is so valuable, and I very much hope that it becomes law.

Mr. BURGESS. Yes. And it is just so—you know, Valerie Jarrett should have been here in our committee or at least answered questions from the committee. Mr. Klein, same thing. This has been a frustrating process from start to finish. The administration has violated the Lanny Davis principle that when you get bad news, you get it out early, you get it out often, and you tell it yourself. I think they should learn something from this experience.

I will yield back the balance of my time.

Mr. STEARNS. The gentleman's time has expired.

And we recognize the gentleman from Massachusetts for 5 minutes.

Mr. MARKEY. Thank you, Mr. Chairman.

Just to restate Mr. Berlin's point down there, the vote on the green bank in the Energy and Commerce Committee in 2009—and that green bank was included in the Waxman-Markey bill—was 51 to 6, including by Mr. Burgess, on that green vote. Just so that everyone has the history on that.

But this is really a debate not over that, but really a debate over whether or not, you know, the Republicans really want to support renewable energy as opposed to any other energy source. Let's be honest, that is the real debate.

So, Ms. Furchtgott-Roth, welcome back to the committee.

Ms. FURCHTGOTT–ROTH. Thank you.

Mr. MARKEY. I would appreciate answers to these questions. You, too, Dr. Kreutzer.

Do you agree that if a publicly traded company has been warned that it may be delisted from the stock exchange because its shares are trading at under a dollar, that the Federal Government probably shouldn't be giving a $2 billion taxpayer loan guarantee?

Mr. KREUTZER. You know, I have been tricked into these yes-or-no questions before because I don't know what the loan guarantee——

Mr. MARKEY. If a publicly traded company has been warned, already been warned that it could be delisted——

Mr. KREUTZER. OK.

Mr. MARKEY [continuing]. Should the Federal Government be giving a $2 billion loan guarantee to that company?

Mr. KREUTZER. I think I have made it clear in the past that I don't think the government should be in the business of making loan guarantees.

Mr. MARKEY. Thank you.

Ms. Furchtgott-Roth?

Ms. FURCHTGOTT–ROTH. I don't think the government should give loan guarantees to any company, period.

Mr. MARKEY. OK. Thank you.

Ms. FURCHTGOTT–ROTH. Delisted, listed, whatever.

Mr. MARKEY. Thank you. I got it. Thank you.

Solyndra was given a B-plus credit rating before DOE issued its loan guarantee, which means it was highly speculative. If a company had an even lower credit rating, for example, a CCC-plus rating, which means it has junk bond status and is considered a sub-

stantial risk, do you agree that the government probably shouldn't be giving it a $2 billion loan guarantee?

Dr. Kreutzer?

Mr. KREUTZER. I think I have already answered that. Yes.

Mr. MARKEY. OK. Thank you.

Ms. FURCHTGOTT–ROTH. We have a trillion-dollar deficit. We are borrowing 40 cents out of every dollar that we spend. We should not be in the loan guarantee business.

Mr. MARKEY. I am with you.

Now, what about a project that is already predicting a 7-month delay and a cost overrun of almost a billion dollars on a $14 billion project that has barely even begun construction? Do you agree that the government probably shouldn't be giving it an $8 billion loan guarantee if it has already basically doubled its costs?

Mr. KREUTZER. I don't think the government should, in general, be in this. So I don't know how far down the road they are, if they have already signed agreements. You know, I don't think the 26 loan guarantees that were done under here should be somehow pulled back. I think there needs to be a point where you say, here is where we stop.

Mr. MARKEY. Well, I am not talking about hypothetical solar projects. I am talking about two nuclear——

Mr. KREUTZER. I understand.

Mr. MARKEY [continuing]. Loan guarantee applications that this legislation does not preclude from moving forward. And I would like to work with the majority to preclude them from moving forward.

The Department of Energy has given a conditional approval of an $8 billion loan guarantee to the Southern Company to build two nuclear reactors that the Nuclear Regulatory Commission's experts warned could, quote, "shatter like a glass cup" in an earthquake. The Department has also provided hundreds of millions of dollars of taxpayer money in bailouts to the near-bankrupt United States Enrichment Corporation, which still has a pending loan guarantee application before the Department. But we have never had a hearing on these projects, despite my repeated requests to do so.

The 28 loan guarantees for renewable energy totaled $16 billion, and Congress appropriated $2.5 billion to cover the possible defaults. So 16 percent of the total loan value of these projects is backed up by hard currency of the Department of Energy. But DOE documents indicate that it is only going to require as little as $195 million or 2 percent of the $8.3 billion nuclear power plant guarantee to mitigate the massive risks.

Ms. Furchtgott-Roth and Dr. Kreutzer, shouldn't the Department require a much larger insurance policy before moving forward with these loan guarantees, given what we have just learned from the Solyndra incident and given the already very questionable history of these nuclear power plants?

Mr. KREUTZER. I don't know the particulars of those loans and what would be an appropriate guarantee. I think I have said that if I had it to start over again, we wouldn't have the loan guarantees in the first place. How far down we are the road with this and to what extent they have been committed, I can't answer. And I

think the committee has put together a bill that has picked a point beyond which we no longer accept them.

Mr. MARKEY. Let me just interrupt right there to say, we have recently begun to hear Republican complaints that some of the loan guarantees that were issued resulted in manufacturing jobs being created overseas. And I am hearing what they are saying, that these loans should not be issued to companies that plan to use the funds to outsource jobs.

I would just like to point out that both the United States Enrichment Corporation and the Southern Company plan to utilize many expensive foreign components. And I am sure my colleagues will be as distressed about that as I am. And hopefully you will work with me to make sure that the Southern Company and the United States Enrichment Corporation cannot be dealing with those foreigners, so that we have the same policy for foreign solar panels and the same for the nuclear industry in terms of the foreign components that are used in our reactors.

So, just a little preview of coming attractions, of the paradoxical——

Mr. STEARNS. I thank the gentleman.

Mr. MARKEY [continuing]. Nature of dealing with loan guarantees and trying to segment out solar from nuclear and pretend that there is an actually coherent policy which has been constructed.

Thank you, Mr. Chairman.

Mr. STEARNS. Thank you.

I would just point out to my colleague that, under the 1703 program, the nuclear companies must pay the credit subsidy costs, but under the Obama 1705, the taxpayers pay that cost for the companies.

And, with that, I recognize the gentleman from New Hampshire for 5 minutes.

Mr. BURGESS. Mr. Chairman?

Mr. STEARNS. Yes?

Mr. BURGESS. I move to strike the last word——

Mr. STEARNS. By unanimous——

Mr. BURGESS [continuing]. For a brief observation.

Mr. STEARNS. Sure. How about 30 seconds?

Mr. BURGESS. My question to Mr. Berlin was only to correct if anyone was watching this and got the mistaken impression that the Waxman-Markey bill was brought to the floor of the House under anything but the most closed of rules and we were not allowed to offer amendments, even though, leaving the Rules Committee, there were 300 new pages of legislation added to the Waxman-Markey bill. That is why I was so startled by his comment.

Yes, I will admit, I occasionally veer off into supporting Mr. Markey in committee. I will try not to let it happen again. And I will issue my formal apology to Mr. Markey——

Mr. STEARNS. All right. With that——

Mr. BURGESS [continuing]. For that lapse in oversight.

And yield back.

Mr. STEARNS. OK. We are going to let the second panel go and call up the third panel, if you would. And thank you for your patience as we have votes here. And we appreciate your participation.

Do you want to take over, Ed?

Mr. WHITFIELD [presiding]. I want to welcome the third panel. I want to thank you for your patience, and we look forward to your testimony.

On the third panel, we have with us Mr. Paul Chamberlin, who is assistant vice president, energy and campus development at the University of New Hampshire.

And I would like to recognize Mr. Bass of New Hampshire, because since he is from New Hampshire, I wanted him to make some comments about you, as well.

Mr. BASS. Thank you very much, Mr. Chairman.

And I want to also thank our witnesses today for their patience.

And I want to thank you, Mr. Chairman, for having this hearing on what should be a commonsense component of our Nation's energy strategy, i.e., energy efficiency.

As we will hear today, the bipartisan Smart Energy Act would optimize the use of energy savings performance contracts to reduce the Federal Government's energy consumption and save taxpayers' dollars as well as encourage economic growth and create jobs by promoting industrial energy efficiencies like combined heat and power.

New Hampshire, I am proud to say, is a leader in such technologies. And I am pleased that Paul Chamberlin from the University of New Hampshire is here to testify today about their very innovative cogeneration system and its benefits to the university and to the people of New Hampshire.

So, with that, Mr. Chairman, I will yield back.

Mr. WHITFIELD. Thank you.

In addition to Mr. Chamberlin, we have with us today Mr. John Marrone, vice president, energy initiatives for Saint-Gobain Corporation. We have also Mr. Jeff Drees, U.S. country president for Schneider Electric, on behalf of the National Electrical Manufacturers Association. We have Mr. Stephen Nadel, executive director, the American Council for an Energy-Efficient Economy. And lastly, but not least, Ms. Kateri Callahan, president of the Alliance to Save Energy.

So thank you for being with us. Each one of you will be given 5 minutes for a statement.

And, Mr. Chamberlin, we will begin with you. You are recognized for 5 minutes.

STATEMENTS OF PAUL D. CHAMBERLIN, ASSOCIATE VICE PRESIDENT FOR FACILITIES, UNIVERSITY OF NEW HAMPSHIRE; JOHN MARRONE, VICE PRESIDENT, ENERGY INITIATIVES, SAINT–GOBAIN CORPORATION, ON BEHALF OF INDUSTRIAL ENERGY CONSUMERS OF AMERICA; JEFF DREES, U.S. PRESIDENT, SCHNEIDER ELECTRIC, ON BEHALF OF NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION; STEPHEN NADEL, EXECUTIVE DIRECTOR, AMERICAN COUNCIL FOR AN ENERGY–EFFICIENT ECONOMY; KATERI CALLAHAN, PRESIDENT, ALLIANCE TO SAVE ENERGY

STATEMENT OF PAUL D. CHAMBERLIN

Mr. CHAMBERLIN. Mr. Chairman, distinguished committee members, it is my distinct honor to appear before you today regarding

energy efficiency and the University of New Hampshire's cogeneration plant, which we installed to provide both power and heating to the university's main campus in Durham, New Hampshire. I hope our experience and perspective will inform the committee's deliberations on Representative Bass' bill, the Smart Energy Act.

Mr. Chairman, prior to 2005, the University of New Hampshire was purchasing electricity from a local utility, and heat was generated in the form of steam in an aging central boiler plant and distributed to the campus by a district heating system. Rather than investing in an upgrade to the 1950s-era boiler plant, in 2005 UNH invested $20 million in a cogeneration system that would meet campus heating needs and provide electric power to meet campus requirements.

This system has resulted in significant benefits: One, the total cost to provide utilities to the campus is lower. We estimate a $3 million savings in 2011. Two, air pollution emissions were reduced. Three, regional greenhouse gas emissions were also reduced. And, finally, four, demand on the regional energy system was reduced.

In 2009, UNH placed in operation our EcoLine system, a $49 million project to process and transport landfill gas to the campus for use as the primary fuel in our cogeneration plant. Landfill gas is now providing nearly 70 percent of the total campus energy and 80 percent of the fuel consumed by our cogeneration plant. We believe our campus is unique among higher education institutions in using landfill gas as our primary source of energy.

Cogeneration offers the opportunity to dramatically improve the efficiency with which fuel energy is converted to usable forms as heat or electricity and, thus, reduces the demand on our electric supply. Settings where both forms of energy are needed, such as college and university campuses, industries that need both heat and power, cities that have central heating districts, military installations, are well-suited for cogeneration application. Locations where there is a large thermal need and the ability to connect to the grid also offer the opportunity for cogeneration to meet local thermal needs, with electricity being exported to the grid.

In all cases, there is a beneficial effect on the grid by decreasing the need for peaking power necessary to meet system demand. The technology, in our experience, is mature and, again in our experience, the equipment is highly reliable.

Mr. Chairman, UNH experience clearly shows that efficient cogeneration installations with balanced thermal and electric energy loads can dramatically improve the efficiency with which fuel energy can be transformed into usable electric and thermal forms. For this reason, I am pleased to lend my support for section 203 of Representative Bass' Smart Energy Act, which calls for the doubling by 2020 of the production of electricity through the use of combined heat and power plants and waste heat recovery and the development of a strategic plan to achieve these energy-efficiency objectives within the industrial sector.

As the committee examines this set of issues, it should be noted that widespread application of cogeneration technology has distinct implications for the management of the power grid and application of regulatory requirements. And it is essential, I believe, that these issues be addressed comprehensively in order for the Nation to

fully exploit the energy efficiency and environmental benefits of cogeneration systems.

The University of New Hampshire's experience demonstrates that moving to a cogeneration energy system is not an abstract idea. Rather, the university sets an example that other institutions and installations can emulate or follow if there is a strong commitment to achieve energy savings.

That concludes my opening statement, Mr. Chairman. I want to thank the members of the committee for this opportunity to appear before you today. And I look forward to your questions.

Mr. WHITFIELD. Mr. Chamberlin, thank you very much.

[The prepared statement of Mr. Chamberlin follows:]

SUMMARY TESTIMONY OF PAUL D CHAMBERLIN

ASSOCIATE VICE PRESIDENT FOR FACILITIES

UNIVERSITY OF NEW HAMPSHIRE

Before the

JOINT SUBCOMMITTEE ON ENERGY AND POWER AND SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS HEARING ENTITLED "THE AMERICAN ENERGY INITIATIVE"

Prior to 2005, the University of New Hampshire was purchasing electricity from the local utility and heat was generated in the form of steam in an aging central boiler plant and distributed to campus buildings via a district heating system. Rather than investing in an upgrade of the central boiler plant, in 2005 UNH installed a $20 million cogeneration system that would meet campus heating needs and provide electric power to meet the growing campus needs. This system has resulted in several benefits; the total cost to provide utilities to the campus is lower (an estimated $3 million savings in 2011), air pollutant emissions were reduced, greenhouse gas emissions were reduced, and the more efficient cogeneration system reduced the demand placed on the regional energy systems.

In 2009, UNH placed in operation our ECOLine system, a $49 million project to process and transport landfill gas to the campus for use as the primary fuel in the cogeneration plant. Landfill gas is now providing nearly 70% of the total energy used by the campus and is nearly 80% of the fuel energy consumed by the cogeneration plant. We believe our campus is unique in higher education in using landfill gas as our primary source of energy for the campus.

The UNH experience shows that efficient cogeneration installations with balanced thermal and electric energy loads but can result in dramatic improvement in the efficiency with which fuel energy can be transformed into useable electric and thermal forms. However, widespread application of cogeneration technology has implications for management of the power grid and application of regulatory requirements that should be addressed.

TESTIMONY OF PAUL D. CHAMBERLIN

ASSOCIATE VICE PRESIDENT FOR FACILITIES

UNIVERSITY OF NEW HAMPSHIRE

July 12, 2012

JOINT SUBCOMMITTEE ON ENERGY AND POWER AND SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS HEARING ENTITLED "THE AMERICAN ENERGY INITIATIVE"

Mr. Chairman and distinguished Committee Members, I am privileged to appear before you to share the experience of the University of New Hampshire in the installation of a Cogeneration Plant to provide both electric power and heating to the University's main campus in Durham, New Hampshire. I hope that our experience will help inform the committee's deliberations.

The University of New Hampshire is the state's flagship public research university, providing comprehensive, high-quality undergraduate and graduate programs of distinction. Its primary purpose is learning: students collaborating with faculty in teaching, research, creative expression, and service. The University of New Hampshire has a national and international agenda and holds land-grant, sea-grant and space-grant charters. From its main Durham campus and its college in Manchester, the University serves New Hampshire and the region through continuing education, cooperative extension, cultural outreach, economic development activities, and applied research.

The University of New Hampshire is distinguished by its commitment to high quality undergraduate instruction, hand-picked excellence in graduate education, our emergence over the past decade as a significant research institution and our location in a beautiful and culturally rich part of the New England seacoast. Our comparatively small size allows us to cultivate a strong sense of commitment to serving the public good and we maintain high level of responsibility for our special place in New Hampshire.

The dedication of our faculty to the highest academic standards infuses all we do with the excitement of discovery.

The University's main campus currently includes 5.6 million square feet of space. Utility costs have always been a significant element in the cost to operate the campus; exceeding $10 million annually for over a decade.

COMMITMENT TO ENERGY EFFICIENCY AND SUSTAINABILITY

The University has a well-established and broadly based energy efficiency program. As the result of efforts over the last three decades the University has implemented a campus-wide building automation system, or BAS, that enables centralized monitoring and control of building heating, ventilation and air condition systems in a majority of our major buildings. Using this system we can adjust temperature settings and monitor and adjust system performance. Utilizing our construction and repair standards, we require building designs that will provide durable structures. We also require the installation of efficient lighting, variable speed drives and efficient electric motors and maximize the use of heat recovery systems. The recent renovation of our natural sciences building achieved LEED Gold[1] certification and we are targeting the same level for the new Peter Paul School of Business and Economics building currently under construction. Whenever possible we seek to minimize the life cycle cost of our facilities and not just the initial cost. The results of these efforts were reflected in a survey of higher education campuses performed by the US Department of Energy in 2001 that ranked UNH in the highest 5% of our peers in energy efficiency (based on energy use per square foot of building space.) In 2006 the University received the first Department of Energy EnergyStar building label for one of its

[1] The U.S. Green Building Council has established widely accepted standards and a certification process known as LEED (Leadership in Energy and Environmental Design) for assessing building construction and renovation projects as Certified, Silver, Gold or Platinum

residence halls. Importantly, this recognition was based on data gathered and analyzed by students interested in energy issues. The University also has an active Energy Task Force that is comprised of representatives from students, faculty and staff that has actively developed policy recommendations, supported student awareness activities and serves as the campus focal point for achieving the campus Climate Change Commitment goals. UNH was also among the first institutions to establish a revolving Energy Efficiency Fund, or EEF. Initially seeded by a grant of ARRA funds, the EEF invests in energy efficiency improvements. The savings which are captured through a surcharge on campus energy costs which replenishes the EEF and allows additional investments. The initial investment of $650,000 will yield over $4 million in savings over the next 10 years. In today's severe funding climate, this revolving funding strategy assures steady investment in energy efficiency.

The University also has a commitment to sustainability. Grassroots momentum led to the establishment of the Office of Sustainable Programs in 1997 through a generous gift by a visionary University alumnus, now the oldest endowed, university-wide sustainability program in US higher education. This commitment has led to the cross discipline development of campus initiatives centered on curricula, operations, research and the environment, or CORE. The University was an early signer of the national American College and University President's Climate Commitment by which UNH has committed to specific targets to reduce greenhouse gas emissions. In conjunction with Clean Air/Clean Planet, based in Portsmouth, NH, UNH created a greenhouse gas inventory methodology tailored to colleges and universities that is now used at over 400 campuses across the country. The UNH sustainability efforts are more fully documented in a book titled "The Sustainable Learning Community: One University's Journey to the Future" published in 2009.

MEETING INSTITUTIONAL ENERGY NEEDS

For nearly a century, college campuses have purchased electric power from the local utility and produced their own heat. Many larger campuses like UNH installed central heating plants that supplied either steam or hot water through a district heating system to heat the campus buildings. Others used individual building heating systems, but few obtained their heat from an off-campus source. The electric generation plants operated by the utilities have also had a single purpose: converting fuel energy to useable energy in the form of electric power. Technology limits the efficiency of the conversion of fossil-based fuels (coal, oil and natural gas) to electric energy to about 35%. In other words only about 35% of the energy in the fuel is converted to electrical energy. The rest is lost in the process, typically as hot exhaust gas. Similarly, the campus central heating plants, with their large boilers also had one purpose: to produce heat in the form of either steam or hot water. These boilers are more efficient and convert roughly 80% of the fuel energy into heating energy in the form of steam or hot water. Thus, the norm was for a campus to be supported by energy systems that made a combined use of less than 50% of the fuel energy consumed. This was the state of affairs at the University at the beginning of the new millennium. The University campus purchased electric power from Public Service of New Hampshire, the local electric utility, and generated steam for heating the core campus buildings in a vintage single purpose heating plant. The University has had a central heating plant since it moved to the present campus location in the 1890's. The current plant was originally constructed in the 1930's and included four large boilers that initially operated on coal. In the 1950's these boilers were converted to heavy oil and in the 1990's, the ability to also operate on natural gas was added. However, the basic technology and much of the equipment dated back to the 1950's. By the late 1990's these aging units could no longer reliably provide the necessary steam to support the campus. Concurrently, the University undertook a program to increase the percentage of our undergraduate population housed on campus and initiated a major upgrading of our science and engineering buildings. It was clear the resulting construction would outstrip the capacity of the boiler plant to provide heat and that a major investment

would be necessary in order to provide a reliable source to meet the campus heating needs. Estimates at the time placed the cost at a minimum of $17 million to upgrade the existing heating plant to provide the reliability and capacity needed.

CONSIDERING COGENERATION

Rather than invest in boiler technology from the 1950's, the University initiated a study to consider the applicability of cogeneration as a method for meeting campus energy needs. A fully utilized cogeneration system can improve the overall efficiency of fuel energy to energy produced to over 85%. Through this study we also learned that for our heating and power loads, a cogeneration plant based on turbine powered generators rather than internal combustion engine based systems would be the most efficient. This study and our subsequent experience highlight two key factors that influence the suitability of cogeneration.

The first consideration is sizing of the cogeneration system. Our experience and the data from turbine manufacturers shows that the efficiency of a turbine drops quickly when the turbine is operated at less than full output. This efficiency measurement, called heat rate, is the fuel energy measured in British Thermal Units (BTU) per KWH of electricity produced. In other words, as the amount of fuel to produce a KWH increases the total KWH output drops. For a typical turbine, the change is significant. If the turbine is expected to normally operate at or near its rated capacity, the heat rate variation isn't a major consideration. However, at a college or university campus and in many other possible applications, the electric load can vary widely. At UNH our campus electric load varies from less than five megawatts (5MW) to as high as 13 MW seasonally and can vary 4MW to 5MW on a daily basis. With such a variable load, sizing a turbine generator to be able to handle the maximum predicted load will result in the

turbine operating much of the time at less than full output and thus in a much less efficient range. After considering the UNH electric load profile, a turbine in the 8 MW range was determined to provide the best compromise between generating the greatest percentage of campus power and fuel efficiency. Both Siemens and Solar[2] offer turbines in this size range. Ultimately a Siemens SGT300 turbine was selected as the best fit for the campus load profile.

An outcome of the sizing decision was that the campus would remain connected to the local electric utility and would not be self-sufficient. While this added a level of technical complexity and regulatory involvement (ISO New England, NE Pool and even the Federal Energy Regulatory Commission) it also meant that the campus had access to the grid as backup for the turbine generator during scheduled and unscheduled shut downs. This access comes at a price, however, as the utility charges the campus a capacity or standby charge that is based on the maximum demand the campus places on their system. This capacity charge is in addition to the charge for consumed power and covers the cost for the utility to be accessible if the cogeneration unit trips offline. Also as a result of the decision to remain connected to the grid, the University was required to fund an interconnect study by the local utility and to install the protective devices and controls determined by that study to be necessary to insure a fault in the campus system did not disrupt the local distribution or transmission systems. It is my expectation that most institutions and industrial applications would have variable load profiles similar to ours and would end up optimizing the size of their cogeneration system at some level below their maximum electric load and choose to remain connected to the grid.

A second key consideration is the heating load profile. In Northern New England we have a significant winter heating load but little to no need for heating in the summer. Prior to the cogeneration project,

[2] Solar Turbines-A Caterpillar Company

the summer steam load was limited to a few locations where steam was used to make hot water in dorms and dining halls. Only Rudman Hall, our biological sciences building, had steam absorption chillers for creating chilled water for air conditioning. This seasonal imbalance challenges the effective use of the steam that can be produced by a cogeneration system. Frankly, we underestimated the steam that would be available in the summer months and in the first few years of operation we could not use the steam the plant produced. Fortunately, our recent building projects required the installation of chillers to generate chilled water for air conditioning. Rather than using the more common electric chillers, we have used steam absorption chillers. These units use energy from steam rather than from electricity as the primary input in the production of chilled water. This has had a double benefit: not only do we avoid increasing the campus total electric consumption but we take advantage of the very steam energy that was otherwise being wasted and is very economical to produce.

In other parts of the country, particularly in the southeast, cooling, not heating, dominates. In these locations, steam absorption technology can provide an effective use for the steam generated in a cogeneration plant during the summer, but creating a winter steam load may be the challenge. At industrial locations, the need for thermal energy may dominate. Cogeneration is still applicable as it may be economically feasible to export electric power to the grid from a cogeneration system while using the thermal energy produced on-site.

I hasten to add that the University of New Hampshire is not alone among colleges and universities in moving to cogeneration. According to the Department of Energy, more than 200 higher education institutions have some form of cogeneration supporting their campuses.

MOVING FORWARD WITH COGENERATION

Rather than invest in out of date boiler technology, and after careful consideration of the cost implications, the University chose instead to invest in cogeneration technology as the most cost effective and efficient means of meeting campus energy needs. At the risk of oversimplifying what was a detailed analysis, the major elements taken into consideration were:

- Cost per Kilowatt Hour (KWH) for purchased electricity in New Hampshire (which is relatively high by national norms)
- Amortization of the investment alternatives for either upgrading the heating plant or constructing a cogeneration facility
- Campus heating and electrical load profiles
- Comparison of the likely operation and maintenance cost for an updated central heating plant vs. a combined heat and power plant
- Efficiency of the turbine and heat recovery steam generator

After weighing these factors the University, with the concurrence of our Board of Trustees, decided to move forward with installation of a cogeneration system and in 2003, UNH contracted with EMCOR Energy Services for the design and construction of a Cogeneration Plant to be co-located and interconnected with the existing central heating plant. A Siemens SGT300 DLE dual fuel turbine generator with a rated output of 7.9 megawatts (7.9MW) was selected as the power generator. The hot exhaust gasses from the turbine pass through a Heat Recovery Steam Generator (HRSG) which reduces the exhaust gas temperature from roughly 1000 °F to 300 °F and produces 40,000-45,000 pounds per hour of steam. (For comparison, on a windy January day when classes are in session and temperatures are in the single digits, the campus heating system uses about 100,000 pounds per hour of steam.) Our system is also equipped with a duct burner that adds additional fuel into the turbine exhaust gas which

increases the steam production to 95,000 pounds per hour. The Siemens turbine was designed to operate on both natural gas and #2 oil (essentially home heating oil) with the cleaner burning natural gas being the preferred fuel. The project, which included a building to house the system, the turbine, heat recovery steam generator and other auxiliary equipment and the necessary electric switchgear, cost $20 million. The project was financed through a combination of internal funds and a lease purchase contract for the major equipment. The system was placed in operation in 2005.

SYSTEM PERFORMANCE

The impact of the University's investment in cogeneration can be measured in a number of ways, but the following are considered most illustrative.

Average energy consumed per square foot of building space. Figure 1 shows two trends; the lower line is the energy used by the campus buildings as an average per square foot.

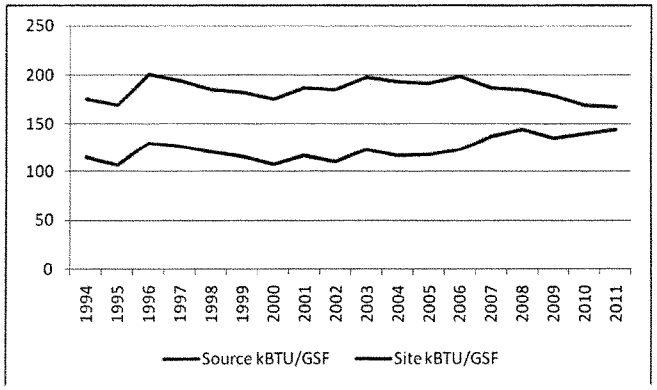


Figure 1 Source versus Site Energy Density

This energy "density" has increased at the University over the past decade principally as a result of our science and engineering building modernization projects that have added air conditioning and code compliant ventilation systems to what were buildings with only basic heating. However, the upper line reflects what the Department of Energy calls "Source Energy;" that is the total estimated fuel energy consumed to create the electric or heat energy actually used. In the case of the University, this is a combination of the estimated fuel energy used to create the electricity purchased from the utility and the fuel energy used by the campus. Note that since 2005 the trend for this line is down. Despite the increasing energy density of our buildings, the source energy density has declined. In regional or even national terms, this means the campus is placing less demand on the overall energy supply per square foot of space yet still meeting an increasing energy need. This is directly and solely due to our cogeneration system.

Greenhouse Gas Emissions. The University has established a clear commitment to reduce the emission of greenhouse gasses associated with operation of the campus. As noted above, the University has pioneered development of a standard methodology for inventorying the greenhouse gas emissions associated with a college or university campus. This methodology takes into account not only the direct emissions from campus activity but the emissions associated with electric generation by the local utility. The emission of greenhouse gasses, measured as carbon dioxide equivalents (CO2e), is a parallel indicator of how efficiently energy is being produced and used. Prior to the cogeneration project, the University's greenhouse gas emissions were estimated at 86,000 tons per year. With the cogeneration system, that level has dropped to 67,000 tons per year or a reduction of 19,000 tons per year.

Air Pollution. Unlike greenhouse gas emissions, regulated air pollutant emission is measured and regulated at the source or site and the regulations do not take into account the net positive regional

impact that cogeneration can have. For example, prior to the cogeneration project, the University used 350,000 mmBTU's of fuel energy on site to create steam for heating. With the cogeneration system in operation, the University is now using 800,000 mmBTU's to create both power and electricity. Nitrous Oxides (NOx) are the principle pollutant of concern in the northeast. By selecting a turbine designed for low NOx emissions and with the switch from heavy oil to natural gas as the primary fuel, we were able to reduce our total NOx emissions from 70 tons per year pre-cogeneration to 50 tons per year with cogeneration despite more than doubling the fuel used on campus. Additionally, we are drawing far less electric power from the utility. For other locations where natural gas may already be the primary fuel, adding cogeneration will most likely increase NOx emissions beyond current permitted levels. Under current New Hampshire regulations, there is no way to take into account that the more efficient cogeneration system is not only continuing to meet heating needs, but is meeting much of the electrical needs and thus reducing the power that must be generated by the utility. We estimate that the regional NOx emission reduction associated with electric power the campus no longer imports to be 67 tons per year The regulatory framework in New Hampshire does not recognize or give credit to the offset in the emissions from utility power plants. While not a factor for the University, this could be a barrier for others considering cogeneration systems.

Similarly, Sulfur compound emissions (SOx) were reduced from roughly 260 tons per year to only 20 tons per year, a dramatic decrease which reflected the switch from heavy oil to the cleaner natural gas as well as less reliance on our local utility. Similar to NOx, we estimate the regional SOx reductions to be roughly 400 tons per year due to the reduced power demand on the grid.

Clearly, moving to cogeneration has important implications for regional air quality.

Financial Performance. At the risk of over-simplification, a comparison of the current cost for the combined electricity and heat energy used by the campus versus the estimated cost had we not invested in the cogeneration system can be made. In 2011, the campus used a total of 784,000 mmBTU energy in the form of electricity or heat. The total cost to create or purchase that energy including operation of the cogeneration system was $10,500,000. Had the campus continued to purchase all electricity and run the central boiler plant to create heat, it is estimated that the total cost would have been $13,431,000[3] an estimated savings of $3 million.

USING LANDFILL GAS RATHER THAN NATURAL GAS AS COGENERATION PLANT FUEL

While the cogeneration plant was still under construction the possible use of landfill gas from a large landfill approximately 8 miles from the campus as fuel for the cogeneration system was suggested. Located in Rochester, New Hampshire and owned and operated by Waste Management of New Hampshire, the landfill was producing more gas than could be used for power generation on site[4]. The excess gas was being burned or "flared" to break down the methane and destroy the odor causing components in the gas. In a cooperative effort, University and Waste Management officials explored the concept in a two year due diligence effort, and ultimately a fully developed project concept was presented to the University System of New Hampshire Board of Trustees for approval.

Landfill gas is a naturally occurring by-product of the breakdown of organic material deposited in a landfill. Once the oxygen is consumed, which happens quickly, and anaerobic conditions exist, methane producing bacteria can flourish and the gas produced contains methane, or CH_4, which is also the

[3] This calculation requires a number of assumptions the principle of which is the level of investment that would have been necessary to increase the central heating plant capacity and improve reliability.
[4] Regulatory and physical limits precluded the installation of additional power generation at the landfill.

primary constituent in natural gas. Landfill gas also contains malodorous volatile organic and sulfur compounds. Under Clean Air Act regulations, operators of large landfills must install gas collection systems to capture the gas being generated within the landfill material before it escapes into the atmosphere. Initially required as an odor control measure, we now recognize that methane is a potent greenhouse gas that has twenty times the impact of carbon dioxide. Preventing the release of methane has become an equally important function of the gas collection systems.

These gas collection systems place a vacuum on the landfill material to draw the gas into the collection system before it reaches the surface. The system can also draw air from the landfill surface, so the captured gas is a mix of gas from the landfill mixed with air from the atmosphere. As a result, the constituents will vary from landfill to landfill. At Rochester, the gas is roughly 50% methane with the balance being nitrogen, carbon dioxide and oxygen. Also present are the volatile organic and sulfur compounds mentioned earlier, a family of silica based compounds called siloxanes, and moisture.

Through the due diligence process, the University determined that the raw landfill gas was incompatible with the Siemens SGT300 turbine. Although designed to operate on natural gas, Siemens advised that they could modify the turbine combustion system and controls to operate on gas with a lower percentage of methane than natural gas, but not as low as 50% and that the contaminates, particularly siloxanes, were potentially harmful.

Ultimately the ECOLine, as the project is called, consisted of five major elements;

- The landfill and landfill gas control system owned and operated by Waste Management,
- A University owned and operated gas processing plant that removes contaminates, moisture and CO_2 from the raw landfill gas to produce a dry gas that is 70% - 75% methane,

- A 12.6 mile pipeline connecting the landfill and the campus,
- Modification to the existing cogeneration plant and turbine to use the processed landfill gas, and
- Installation of a second turbine optimized for power production to insure available landfill gas was productively used when campus demands were low.

In June 2007, the University System Board of Trustees approved a $49 million project to create the ECOLine system to bring processed landfill gas to the campus for use as the primary fuel for the Cogeneration Plant. In July 2009, the turbine was fully operational on landfill gas and the system has been in operation since.

A particularly unique aspect of the ECOLine system was the creation of a gas blending system that allows us to add natural gas to the processed landfill gas when necessary to assure the minimum requirements of the Siemens turbine can be met. This system can also augment the quantity of landfill gas if necessary to permit the turbine to run at maximum output. This system allows us to continue to use the available landfill gas even when the quality or quantity may be not fully meet the fuel requirements of the turbine.

Clean Air Act regulations were also a factor in the ECOLine project. Regulators concluded that the pipeline connection between the campus and the gas processing plant at the landfill made the processing plant an extension of the campus and that the emissions from the plant would fall under the campus air permit. Since the processing plant included two generators to produce power to operate the plant as well as flares to destroy any unused gas and we were installing a second turbine, there would be an increase in total emissions on the University's permit. Regulators were aware of and appreciated

the fact that there would be a decrease in the emissions under the landfill's air permit, particularly in sulfur compound emissions, and thus a regional benefit, but they lacked the flexibility to take this offset into account in addressing the University's permit. This required an increase in the University's air permit levels and only through the willingness of the State of New Hampshire to donate retired credits it held to the University's project did the University avoid having to purchase credits.

In selecting a second turbine, the University's goal was to insure all available landfill gas was productively used. We selected a 4.9 MW Solar M50 turbine generator that was designed to operate on our processed landfill gas without needing any augmentation. At present, this is a single cycle installation that only produces power but is designed to allow later installation of a heat recovery boiler should campus steam loads warrant.

At design capacity, the ECOLine system is capable of meeting 85% of the campus energy requirements from landfill gas. However, the economic slowdown also affected the volume of material being deposited in the landfill with an associated reduction in gas production. Despite this, during the past 12 months gas from the landfill provided 68% of the total campus energy and comprised 79% of the fuel energy used in the Cogeneration Plant. To our knowledge, this is the greatest use of non-fossil fuel at any college or university in the country.

LESSONS LEARNED AND OBSERVATIONS

A key factor for the University in realizing the full efficiency of our cogeneration system has been the use of steam absorption chillers rather than the more commonplace electric chillers. Unfortunately, steam absorption chillers have both a higher initial cost and are not available from domestic manufacturers.

Based on the University's experience, using steam absorption chillers or other team-driven chillers to meet air conditioning needs will be a key factor in more widespread installation of cogeneration systems as they can provide a summertime use of the steam that cogeneration systems can produce. Incentives that would encourage the use of steam absorption cooling or other waste heat driven equipment as part of a cogeneration system may spur wider application of these systems.

The optimal application for cogeneration is where there is a balanced need for both electric energy and thermal energy. Ideally, these loads are constant and the system can be sized to meet the predicted load. Industrial applications may have such conditions. However, highly variable loads will be the norm for many potential applications. In such applications, it is likely that decision-makers will conclude, as we did, that the system should be sized below the maximum load in order to achieve the greatest efficiency and will rely on the grid for supplemental and backup electric power. This likelihood creates additional questions. For example, if distributed cogeneration systems become commonplace, it may be safe to assume some percentage of the systems would always be operating. How will the utilities be required to size their generation and distribution systems to assure reliability of the grid and availability of electric power? To what degree is it safe to assume that only a portion of the cogeneration systems might not be operating at any given time with those users meeting their power requirements from the grid? How do rate structures recover the cost for the utilities to maintain the level of standby capacity determined to be necessary yet be kept low enough so as to not disincentive investment in cogeneration systems? Resolving such questions can contribute to wider implementation of cogeneration technology.

As described above, the current Clean Air Act regulations may not be able to recognize the impact of distributed cogeneration system installations on regional pollutant emissions. Regulatory focus may be on the individual site where the installation of a cogeneration system may increase the level of

emissions for an existing permit holder. However, the regional impact may be a net reduction in total emissions, surely a positive benefit that needs to be considered.

CONCLUSIONS

Cogeneration offers the opportunity to dramatically improve the efficiency with which fuel energy is converted to useable forms as heat or electricity. Settings where both forms of energy are needed such as such as college or university campuses, industries that need both heat and power, cities that have central heating districts or military installations are well suited for cogeneration application. Locations where there is a large thermal energy need and the ability to connect to the grid also offer an opportunity for cogeneration to meet local thermal needs with electric energy being exported to the grid. In all cases there is a beneficial effect on the grid by decreasing the need for peaking power plants necessary to meet system demand. Cogeneration also offers much greater efficiency in the way fuel energy is converted into useable forms of heat and electrical energy and thus reduces the demand on our energy supply. The technology is mature and the equipment is highly reliable. Based on our experience at the University of New Hampshire, I strongly believe cogeneration systems should be encouraged as a matter of sound business and good public policy.

For this reason, I am pleased to lend my support for Section 203 of Representative Bass' Smart Energy Act, which calls for a doubling by 2020 of the production of electricity through the use of combined heat and power (CHP) and waste recovery, and the development of a strategic plan to achieve these energy efficiency objectives, within the industrial sector. As the Committee examines this set of issues, it should be noted that widespread application of cogeneration technology has distinct implications for management of the power grid and application of regulatory requirements, and it is essential that these

issues be addressed comprehensively in order for the nation to fully exploit the energy efficiency and environmental benefits of cogeneration systems.

Thank you for this opportunity to share the University of New Hampshire experience in the installation and operation of a cogeneration system and our unique ECOLine landfill gas system.

Mr. WHITFIELD. And, Mr. Marrone, you are recognized for 5 minutes.

STATEMENT OF JOHN MARRONE

Mr. MARRONE. Thank you. Chairman Whitfield, Ranking Member Rush, and subcommittee members, thank you for the opportunity to testify before you on the Smart Energy Act.

My name is John Marrone. I am the vice president of energy initiatives for Saint-Gobain Corporation. I am here today to testify on behalf of Industrial Energy Consumers of America in support of the Smart Energy Act. We wish to especially thank Representatives Bass and Matheson for their leadership on the important issue of industrial energy efficiency.

Saint-Gobain is the world's largest building material company, as well as a global leader in production of high-performance materials and glass containers, with sales of $58 billion in 2011 and over a 195,000 employees.

Here in North America, Saint-Gobain recorded sales of nearly $7 billion in 2011. We employ some 19,000 employees at more than 260 locations in the U.S. and Canada.

Industrial Energy Consumers of America membership is exclusively manufacturers who consume energy as fuel and feedstock to produce value-added products that are consumed by every sector of the economy. Manufacturing consumes about one-third of all natural gas and electricity and employs roughly 12 million people. They also compete with tough global competition.

In many cases, even a small change in price in energy directly impacts our ability to compete. It is for this reason that the Industrial Energy Consumers of America and its member companies advocate for policy that supports reliable and affordable energy, including cost-effective energy efficiency.

Simplistically speaking, there are two ways a manufacturing company can improve their competitiveness and increase jobs: they either increase revenues or decrease costs. Improving energy efficiency is an excellent way to reduce the costs.

After losing about 5.5 million manufacturing jobs since 2000 due to the loss of competitiveness, and recovering only about 500 those jobs since 2010, we have a long way to go. We believe that improving energy efficiency is a solid winning policy platform that will contribute to capital investment, emissions reduction, and the increase in jobs that we all desire.

The Industrial Energy Consumers of America supports the Smart Energy Act for the following reasons.

First, for some time now, manufacturing investment in energy efficiency has been mostly relegated to small-capital projects. Large-capital projects that offer significant potential energy-efficiency gains are rare. We believe that Federal and State policies are part of this reason. Section 201 of the bill requires the DOE to examine a variety of potential barriers and provide guidance on how to fix them.

Second, history can provide a good policy lesson on what works and what does not. Provision (i) of the bill requires that the DOE provide examples of past successful Federal and State policies that resulted in greater use of industrial efficiency.

Third, some countries have placed a high priority on improving manufacturing energy efficiency and competitiveness. We believe it is important to learn from what other countries are doing. Provision (ii) requires the DOE to examine cost-effective policies used by foreign governments to foster energy efficiency.

Fourth, Federal energy-efficiency matching grants are a policy favored by the industrial sector. The matching grant program is a powerful economic leveraging tool that encourages manufacturing companies to open their wallets and spend capital that would create jobs and help drive the economy. Provision (C) would require the DOE to estimate the benefits to the national economy of such a program.

Fifth, section 203 would require the DOE to develop a strategy to double the CHP and waste heat recovery capacity by 2020. The CHP technology can produce power at up to 80 percent energy efficiency versus the base load power plant at about 34 percent. The use of CHP and waste heat recovery projects can significantly improve the competitiveness of a manufacturing facility. However, since 2005, almost no industrial CHP facilities have been built because of electricity market barriers. We welcome the DOE strategy.

In closing, these provisions are being opposed by some organizations representing the electric utility industry. For absolute clarity, they represent those who not only benefit from the barriers that are in place but foster them. The provisions of this legislation do not change any regulations. All they do is seek to identify and explore remedies. Congress should not be deterred from supporting transparency.

Thank you, and I welcome any questions.

Mr. WHITFIELD. Thank you.

[The prepared statement of Mr. Marrone follows:]

Written Testimony of

John Marrone

Vice President, Energy Initiatives

Saint-Gobain Corporation

Before the

House Subcommittee on Energy And Power

July 12, 2012

"Smart Energy Act"

Chairman Whitfield, Ranking Member Rush and subcommittee members, thank you for the opportunity to testify before you on the "Smart Energy Act." My name is John Marrone and I am the Vice President of Energy Initiatives for the Saint-Gobain Corporation. I am here today to testify on behalf of the Industrial Energy Consumers of America (IECA) and in support of the "Smart Energy Act".

We wish to especially thank Representatives Bass and Matheson for their leadership on this important issue of industrial energy efficiency.

Saint-Gobain is the world's largest building materials company, as well as a global leader in the production of high-performance materials and glass containers, with sales of $58.6 billion in 2011 and over 195,000 employees.

Here in North America, Saint-Gobain recorded sales of $6.8 billion in 2011. We employ some 19,000 people in more than 260 locations across the U.S. and Canada.

IECA membership is exclusively manufacturing companies who consume energy as a fuel and feedstock to produce value-added products that are consumed by every sector of the economy *(see Exhibit A)*. Manufacturing consumes about one-third of all natural gas and electricity, and employs roughly 12 million people. They also compete with tough global competition. In many cases, even small changes to the price of energy directly impacts our ability to be competitive.

It is for this reason that IECA and its member companies advocate for policy that supports reliable and affordable energy, including cost-effective energy efficiency.

Simplistically speaking, there are two ways that manufacturing companies can improve their competitiveness and increase jobs. They can either increase revenues or decrease costs. Improving energy efficiency is an excellent way to reduce costs.

After losing about 5.5 million manufacturing jobs since 2000, due to loss of competitiveness and recovering about 500,000 jobs since 2010, we have a long way to go *(see Exhibit B)*. We believe that improving energy efficiency is a solid winning policy platform that will contribute to capital investment, emission reductions and the increase in jobs that we all desire.

IECA supports the "Smart Energy Act" for the following reasons:

First, for some time now, manufacturing investment in energy efficiency has been mostly relegated to small capital projects. Large capital projects that offer significant potential energy efficiency gains are rare. We believe that federal and state policies are part of the reason. Section 201 of the bill requires the DOE to examine a variety of potential barriers and provide guidance on how to fix them.

Second, history can provide a good policy lesson in what works and what does not. Provision (i) of the bill requires that the DOE provide examples of past successful federal and state policies that resulted in greater use of industrial efficiency.

Third, some countries have placed a high priority on improving manufacturing energy efficiency and competitiveness. We believe it is important to learn what other countries are doing. Provision (ii) requires the DOE to examine cost-effective policies used by foreign governments to foster energy efficiency.

Fourth, federal energy efficiency matching grants are a policy favored by the industrial sector. A matching grant program is a powerful economic leveraging tool that encourages manufacturing companies to open up their wallets and spend capital that would create jobs and help drive the economy. Provision (C) would require the DOE to estimate the benefits to the national economy of such a program.

Fifth, Section 203 would require the DOE to develop a strategy to double CHP and waste heat recovery capacity by 2020. CHP technology can produce power at up to 80 percent energy efficiency versus a base load power plant at about 34 percent. Use of CHP and waste heat recovery projects can significantly improve the competitiveness of a manufacturing facility. However, since 2005, almost no industrial CHP facilities have been built because of electricity market barriers *(see Exhibit C)*. We welcome the DOE strategy.

Thank you.

Exhibit A

Examples of Energy Intensity

(Small Energy Price Increases Have Large Competitive Impacts)

- Aluminum: 30-35%
- Recycled steel: 25%
- Integrated steel: 85% energy and raw materials
- Plastics: 80% (feedstock)
- Chemicals: varies greatly 15-20% (fuel only)
- Paper: 10-20%
- Glass: 20-25%
- Fertilizer: 80% (feedstock)
- Food processing: 30%
- Cement: 25-35%
- Refining: 15-20% (fuel only)

Exhibit B

U.S. Total: 5.5 Million Manufacturing Jobs (32%) Lost // 54,905 Facilities Lost (Since 2001)

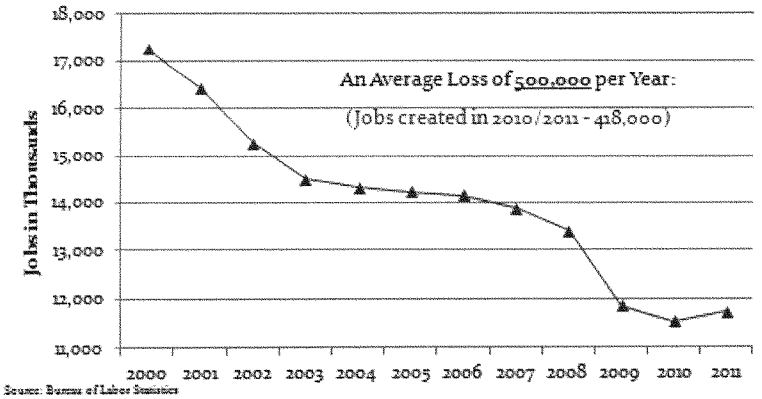
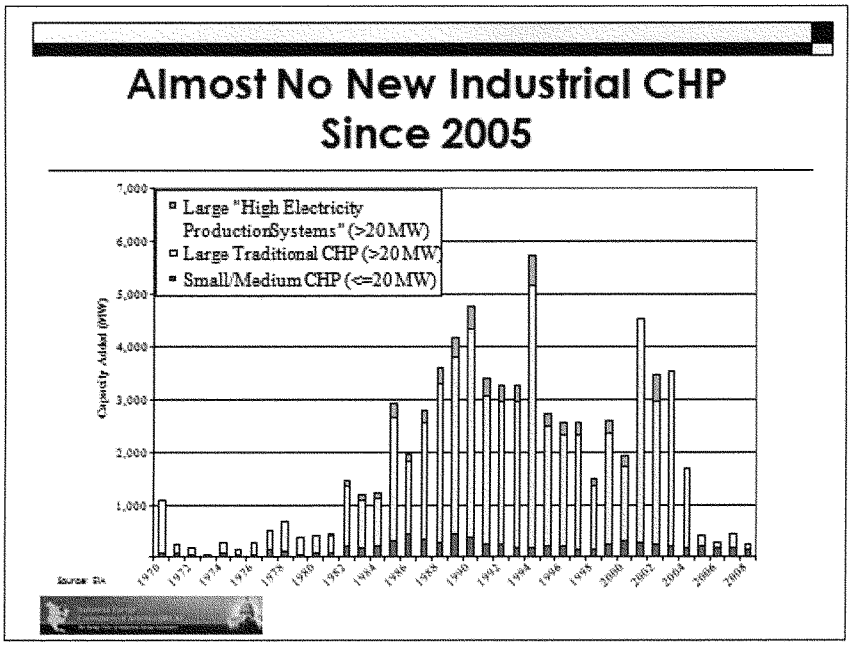


Exhibit C


Almost No New Industrial CHP Since 2005
Large "High Electricity ProductionSystems" (>20MW)
Large Traditional CHP (>20MW)
Small/Medium CHP (<=20MW)
Capacity Added (MW)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008

Mr. WHITFIELD. Mr. Drees, you are recognized for 5 minutes.

STATEMENT OF JEFF DREES

Mr. DREES. Well, good afternoon, Chairman Whitfield and members of the subcommittee. I appreciate the opportunity to testify today.

My name is Jeff Drees. I am the U.S. country president for Schneider Electric. And we are all about our global specialist synergy management, and our business is all about energy efficiency. So, of 18,000 people in the U.S. and energy experts that, every day when they wake up across 240 locations, they think about energy and the ways to make it safe, reliable, efficient, productive, and green. And that is the mantra inside of our company. As I said, we are all about energy efficiency as part of our business.

We are members of the National Electrical Manufacturers Association. We are also members of the Industrial Energy Efficiency Coalition and the Federal Performance Contracting Coalition.

We commend Congressmen Bass and Matheson for authoring the Smart Energy Act draft bill, which really takes a lot of first critical steps to prioritize energy efficiency within the construct of the national energy policy.

And I just wanted to reflect on three pretty key points regarding the Smart Energy Act. The first one is more about how energy efficiency is the first fuel and also job creator. The second one about how the Federal Government has an opportunity to take a leadership position using energy savings performance contracting as a means for energy efficiency. And the third point that I want to talk about is how energy efficiency for the industrial sector can be used as a competitive advantage.

The first point around energy efficiency as the first fuel, it really is fast, it is economical, and it is the most effective way for governments, businesses, and individuals to minimize the uncertainty in energy costs, and also improve the reliability of the grid and shrink dependence on foreign sources of energy and reduce our carbon footprint. We also believe that there is a strong investment need in energy efficiency that can serve as the catalyst for job creation and continue to promote economic prosperity. Quite simply, it saves energy, it saves money, it drives new technology, and it makes energy for businesses like ours more predictable to manage as we manage our business going forward.

Also, in this part around how it really can be used as the first fuel, this is a time for government and industry to come together, to really come together for the right conditions to create clear, predictable, long-term economic motivations that empower businesses to invest in a cleaner, more efficient energy future.

And the second point around how the Federal Government can take a leadership role, we all know certainly that we are under—the Federal Government is under tremendous pressure, tremendous fiscal pressure, and we all look for ways for saving energy and managing costs. And, really, the Federal Government is the world's largest consumer of energy, at $7 billion annually in energy costs. There is an opportunity here for the Federal Government to walk the talk, to really use this as one of the most effective ways to es-

tablish energy efficiency as a national priority and drive innovation that leads to cleaner and lower-cost infrastructure.

Section 101 of the Smart Energy Act requires Federal agencies to use private-sector financing, including ESPCs, to meet the energy-efficiency mandates. This prioritizes the use of private-sector financing over appropriated funds. A good opportunity here is it not only will create jobs and drive energy efficiency when you use ESPCs, but let me be pretty specific: We are also members of the National Association of Energy Services Companies, and they state that every $1 billion worth of performance contracts leads to 11,000 jobs. In fact, to date, because of ESPCs, more than $5 billion worth of equipment has been installed at no cost to the government and $1.4 billion of savings have been generated with no capital outlays by the Federal Government. As an example, our project with the U.S. Coast Guard in Puerto Rico netted $22 billion worth of equipment, 53 percent of energy savings, and 270 jobs—just on one example of working with the U.S. Coast Guard.

Final point around how industrial energy efficiency really can drive manufacturing competitiveness. You know, our industry is a strong supporter of moving for a much more efficient industrial sector. We are a founding member of the Industrial Energy Efficiency Coalition. And we know, as a manufacturer, having 40 plants across the U.S., we know that energy efficiency is at the heart of one of the challenges facing manufacturing, which includes also reducing production costs, complying with new regulations, and reducing its environmental impact.

The industrial sector consumes more energy than all sectors in the U.S. And while industrial facilities have large industrial facilities that consume large amounts of energy, have advanced energy programs, but out of the more than 200,000 manufacturing facilities in the U.S., more than 80 percent don't. And what we want to propose with Bass-Matheson is the expansion of the study to include not just the high-end energy-consuming industrial plants but also a cross-section of all plants that need help, that don't have the level of sophistication that maybe a Saint-Gobain would have about how do we actually get in and help these customers and incentivize them to move for a much more energy-efficient industrial setting.

We are very strong and bullish around combined heat and power. But we think some of the opportunities in the legislation is, you know, how do you use something like ISO 50001 as the national energy standard just like ISO 9001 is the standard for quality, using the same kind of rigor and auditable energy results for industrial setting just like we do with 9001 in quality. As well as enhancing the workforce development and really providing more education for Federal Government around the—and working with energy services companies on how this can be used as an opportunity to really free up energy savings and drive capital improvements in buildings.

And just in closing, as a leader in the energy-efficiency field, as a leader in energy management, I really appreciate the opportunity to testify. I look forward to answering any questions, and we stand ready to assist in this important legislation. Thank you.

Mr. WHITFIELD. Thank you.

[The prepared statement of Mr. Drees follows:]

National Electrical Manufacturers Association

Representing Electrical and Medical
Imaging Equipment Manufacturers
www.nema.org

Statement of

Mr. Jeff Drees

U.S. President, Schneider Electric

on behalf of

National Electrical Manufacturers Association (NEMA)

Before the

Subcommittee on Energy and Power

and Subcommittee on Oversight and Investigations

of the House Committee on Energy and Commerce

On

The American Energy Initiative: Discussion Draft of the *Smart Energy Act*

July 12, 2012

1300 North 17th Street, Suite 1752 - Rosslyn, VA 22209 - 703.841.3200 - 703.841.5900 fax

Jeff Drees, Schneider Electric

Statement Summary

1) The importance of energy efficiency as a first fuel and a job creator
   - Energy efficiency is the most effective way to minimize uncertainty in energy costs, improve availability, shrink dependence on foreign sources of energy, and protect our environment.
   - Investment in energy efficiency drives jobs and growth for industry.
   - Finding the right market levers and instilling the continued motivation are keys to success.

2) The importance of our Federal Government taking a leadership position in the implementation of energy efficiency, including the Energy Saving Performance Contract (ESPC) opportunity.
   - "Walking the talk" is one of the most effective ways for government to establish energy efficiency as a national priority and drive the innovation that leads to cleaner and lower cost infrastructure.
   - Through the use of ESPCs, the Federal Government can reduce its energy use and energy expenditures at no cost to the taxpayer.
   - To date, the pace and size of awards has not leveraged the full extent of the current federal opportunity for leveraging ESPCs for energy efficiency.

3) The continued opportunity in Industrial Energy Efficiency and its impact on industrial competiveness.
   - We are a strong proponent of the need to improve industrial energy efficiency.
   - While we support a promotion of combined heat and power (CHP), there is an additional significant opportunity for industrial energy efficiency through the implementation of control and automation in the industrial sector.
   - Many non energy-intensive industries have yet to implement comprehensive energy efficiency programs, providing a significant opportunity.
   - Recommendations for addressing this opportunity include better understanding, ISO 50001, training and education, and deployment programs.

Statement of Jeff Drees, U.S. President, Schneider Electric
On behalf of the National Electrical Manufacturers Association (NEMA)
Before the
Subcommittee on Energy and Power
and the Subcommittee on Oversight and Investigations
July 12, 2012

Chairmen Whitfield and Stearns, Ranking Members Rush and DeGette, and Members of the Subcommittees:

Thank you for inviting me to testify today on behalf of the National Electrical Manufacturers Association (NEMA). I am Jeff Drees and I currently serve as the U.S. Country President for Schneider Electric. I have responsibility for growth and profitability of the Power, Buildings and Energy businesses in the United States, along with driving energy efficiency and solutions initiatives across the North American territory.

I joined Schneider Electric in 2001 and have held executive roles in sales, energy solutions, and international business. Prior to joining Schneider Electric, I held management and engineering positions at Caterpillar Inc., Honeywell Inc. and served in the U.S. Air Force. I also hold board positions on the Alliance to Save Energy and National Association of Manufacturers.

As a global specialist in energy management, Schneider Electric offers integrated solutions across multiple market segments, including leadership positions in utilities, infrastructure, industry, buildings, and data centers. In the U.S. we have 18,000 employees working in more

than 240 locations across the U.S. including 40 manufacturing facilities, 6 distribution centers, and 6 R&D centers. Our business is energy efficiency. Our teams are actively committed to helping individuals and organizations make energy safe, reliable, efficient, productive and green.

Schneider Electric is a member of NEMA, the Industrial Energy Efficiency Coalition (IEEC) administered by NEMA, and the Federal Performance Contracting Collation (FPCC).

- NEMA is the association of electrical equipment medical imaging manufacturers. Its member companies manufacture a diverse set of products including power transmission and distribution equipment, lighting systems, factory automation and control systems, and medical diagnostic imaging systems. Worldwide annual sales of NEMA-scope products exceed $120 billion.

- FPCC is a group of Energy Service Companies (ESCOs) promoting increased federal use of Energy Savings Performance Contracts (ESPCs.) The FPCC represents more than 90% of Federal ESPCs.

We would like to commend Congressmen Bass and Matheson for authoring the *Smart Energy Act* draft bill, legislation which would take critical first steps on the path to prioritizing energy efficiency when it comes to a national energy policy.

In my written testimony I focus on three key issues relating to the "*Smart Energy Act*"

- First, I emphasize the importance of energy efficiency as a first fuel and a job creator.

- Second, I stress the importance of our Federal Government taking a leadership position in the implementation of energy efficiency including the ESPC opportunity.
- And finally, I emphasize the continued opportunity in Industrial Energy Efficiency and its impact on industrial competiveness.

Energy Efficiency as a First Fuel and a Job Creator

We believe that energy efficiency is the fastest, most economical, and most effective way for governments, businesses and individuals to minimize uncertainty in energy costs, improve availability, shrink dependence on foreign sources of energy, and protect our environment.

We also believe that a strong investment in energy efficiency will create jobs and make our nation more competitive. Being the most efficient user of energy in the world will save money, drive new technologies and services, contribute to a healthy environment, and make energy costs predictable and manageable for our commercial and industrial sectors. America's energy efficiency policy can serve as a catalyst for job creation and continued economic prosperity.

Schneider Electric is one of the first companies to have taken a strong position in support of energy efficiency through the development of efficient and competitive offers for all large market segments. In 2011, we saw the growth rate for energy efficiency activities exceed our company's revenue growth by over 14 points.

There are strong challenges to a continued focus on energy management to achieve sustained and persistent efficiency. Barriers range from simple awareness to embedded or regulated market

structures. Sustained, engaged savings will only be achieved where the market and the consumer realize value. Finding the right market levers and instilling the continued motivation will be the keys to success.

Energy efficiency is about an efficient, productive nation that has the ability to leverage its natural resources better than its peers. It is about innovation that enables us to improve both our lifestyle and our competiveness through improved energy intensity. It's about a path towards grid reliability, continued quality of life, and industrial competitiveness.

Government and industry must work together to generate the right conditions that will create clear, predictable, long-term economic motivations that empower businesses to undertake the investment programs required for a cleaner and more efficient energy future.

Federal Leadership Role in Energy Efficiency

Today the Federal Government is facing significant fiscal challenges in terms of debt and deficits. We need to look for and leverage all opportunities to reduce spending and manage costs. We need to find ways to help industry grow and put people back to work.

The Federal Government is America's largest energy consumer, paying more than $7 billion annually on energy. This bill places the Federal Government in leadership positions in ESPCs, Demand Response (DR), phantom load reduction, data center efficiency, and advance metering

implementation. "Walking the talk" is one of the most effective ways for government to establish energy efficiency as a national priority and drive the innovation that leads to cleaner and lower cost infrastructure.

We are especially encouraged by language that would ensure federal agencies use private sector financing mechanisms, including ESPCs, to meet their energy efficiency mandates, which currently stand at 30 percent energy use reduction by 2015, from a 2005 baseline. In our opinion, the Federal Government should first consider the availability of private sector capital and expertise to finance energy efficiency and renewable energy projects, thereby saving appropriated dollars for mission-related expenditures.

Smart Energy Act, Title I: Federal Energy Use and Generation

In Title I we see several areas of significant savings and leadership opportunities for the Federal Government.

Energy Savings Performance Contracts

The largest opportunities for energy efficiency and cost reductions are in the increased use of ESPCs. Under an ESPC, the private sector installs new energy efficient equipment in federal facilities at no upfront cost to the government. Federal agencies pay this investment over time with funds saved on utility costs – and private sector contractors guarantee these savings. By law, and on a negotiated basis, the government never pays more than it would have paid for utilities if it had not entered into the ESPC. In addition to generating energy and dollar savings, years of

deferred maintenance at federal facilities are successfully addressed by ESPC retrofits. ESPCs have proven to be a highly successful tool to encourage energy efficiency in federal buildings, without imposing associated costs on the taxpayer.

There are significant benefits to the acceleration and expansion of ESPCs in the federal space:

- The Federal Government can meet its energy and environmental goals using private sector financing while reducing Federal Government expenditures.
- Private sector financing mechanisms such as ESPCs produce more than 11,000 American jobs per $1 billion of private sector investment.
- Using private sector financing mechanisms will lead to reduced Federal energy budget on an ongoing annual basis. $1.4 billion has been saved to date through ESPCs alone.

Schneider Electric is a Super ESPC contract holder serving the Federal Government, and a member of FPCC, an organization that represents 12 of the 16 Super ESCO". We also have a significant ESPC business focused on the non-federal institutional and public sector marketplace. Our experience indicates that ESPCs are still under-utilized in the Federal Government. In our opinion, this is due to several factors including the lack of awareness, lack of resources to develop and manage the contracts, and the availability of appropriated funds as a first resource.

We believe that Federal policy, as put forth in *Smart Energy Act*, should express a strong preference that agencies use private financing and expertise such as ESPCs to ensure peak energy and cost efficiency in the federal building stock. The Department of Energy (DOE) has estimated that $1.4 billion in annual federal energy efficiency investments will be required to

meet existing sustainability requirements by 2015. To date, the pace and size of awards has not leveraged the full extent of the current federal DOE Super ESPC contract. Simply, to achieve $1 billion per year in private sector investment via ESPCs there would have to be 57 projects awarded each year.

- The current federal indefinite delivery/indefinite quantity (IDIQ) contract authorizes private sector ESPC investment of $80 billion. An Oak Ridge National Laboratory report from 2011 showed that only 1.2 percent of the contract was utilized at that time. It also showed that if the entire contract authorization were utilized, the Federal Government could achieve $21 billion in net energy savings and create over 517,000 job-years of employment. Remember, these benefits accrue to the government without upfront capital and with a guarantee from the private sector that energy, and therefore cost savings, will indeed materialize.
- According to DOE, there have been 47 projects awarded since 2010 for a total of $833 million of investment with an average project size of $17.7 million.[1]

Private sector financing for energy performance contracts is an established business model used for many years by the Federal Government. It has been authorized for two decades and there are published federal guidelines. There are guaranteed savings by the private sector. The contracts facilitate infrastructure upgrades without using taxpayer dollars.

[1] According to DOE's Federal Energy Management Program website, in 2010 there were 37 projects for $528 million investment making the average size around $14 million. In 2011, there were 7 projects for $252 million of investment making the average size project around $36 million. In 2012 there have been only 3 projects for $53 million so average size declined to $17 million. Overall, the average project size over the last three years has been around $17.7 million.

As an example of what an ESPC can achieve I would like to present you a case study for the U.S. Coast Guard (USCG) in Puerto Rico awarded to Schneider Electric in 2010. The ongoing results of this project include:

- Over 53% total energy savings, guaranteed by Schneider Electric *(if savings are less than the guaranteed amount, Schneider Electric writes a check for the difference)*
- "Near NetZero" (80%+) energy savings at Air Station Borinquen
- 3MW solar installed on "cool roofs" and carports *(cost of electricity in Puerto Rico is over $0.24/kWH, more than twice the national average. Renewable energy is a great investment for taxpayers in this example. It also reduces the dependence on fuel which has to be shipped to Puerto Rico)*
- Improved living conditions for USCG personnel and their families at lower cost to the taxpayers
- Over 270 jobs were created as a result of this project

Electric Vehicles

Expanding the use of ESPCs to include electric vehicles and their charging infrastructure will facilitate the growth of another new industry using private sector financing. We support inclusion of this provision as drafted in the *Smart Energy Act*.

Data Center Consolidation

The expansion of data centers implies a significant increase in electricity requirements for operation and cooling, and the cost of energy needed to cool server rooms should shortly exceed that for the servers. The Federal Data Center Consolidation Initiative (FDCCI) is focused on

consolidating at least 800 data centers by 2015 to save energy, reduce costs, and improve security.

We would like to stress the viability of utilizing ESPCs for FDCCI and urge this to be another consideration in the *Smart Energy Act*. Today, this program appears to be under funded due to Department of Homeland Security 2012 budget limitations. Using ESPCs for data center consolidation is yet another opportunity to leverage private sector dollars to fund this federal program and achieve savings in both energy and costs while improving mission.

Demand Response

DR programs are an increasingly important tool in the management of grid reliability and stability. Through DR programs a utility provides financial incentives to a consumer – industrial, commercial or residential – to shed or eliminate non-critical loads based upon a call or demand from the utility. This allows utilities and power providers to stabilize grid load, manage consumption, and provide improved reliability to all consumers. In addition, pervasive use of DR programs will reduce peak load consumption and avoid the need to build new power plants.

In addition, DR programs offer users more visibility on energy usage and they provide economic justification for facility and infrastructure upgrades. DR gives utilities and customers a way to battle high prices by reducing demand during peak times. This extends the economic life of major energy assets, stabilizes margins and attracts investment.

The *Smart Energy Act*'s objective of asking all agencies to engage in DR programs will bring more visibility to federal energy usage and will place the government in a key role in grid reliability and availability.

Advanced Metering and Federal Energy Management Data Collection

The availability of good energy usage data is critical to maximizing energy management savings. Sophisticated data collection and analysis has been institutionalized in the industrial sector for management of quality, production, people, and finance. Energy efficiency has not achieved the same stature.

We strongly support the *Smart Energy Act*'s intent to accelerate full implementation of advanced metering and energy management reporting within the Federal Government. Without full implementation it will be extremely challenging to meet the energy efficiency mandates for federal facilities, which include a 30% energy use reduction by 2015, from a 2005 baseline.[2]

Smart Energy Act, Title II: Deploying Industrial Energy Efficiency

Our industry is a strong proponent of the need to improve industrial energy efficiency. We are a founding member of the IEEC administered by NEMA.[3] Since 2004 Schneider has managed our own corporate energy reduction plan saving over $24 million in energy costs in the U.S. alone.

[2] *Energy Independence and Security Act of 2007*

[3] IEEC is a global consortium of companies seeking to improve energy efficiency in industrial systems and processes and in business ecosystems. Membership includes ABB, Eaton Corporation, GE, Rockwell Automation, Siemens and Schneider Electric.

In addition, as a Better Buildings Better Plants Challenge Partner, Schneider Electric has committed to reducing the energy use of 9 million square feet of building space, covering 40 different plants, by 25 percent over 10 years.[4]

Energy efficiency is at the heart of the challenges facing industry, which are to reduce production costs, comply with new regulations, and reduce the environmental impact of industrial activity. Furthermore, energy management will be a key component of our industrial competitiveness in the U.S.

The industrial sector consumes more energy than any other sector in the U.S. Although great strides have been made in industrial energy efficiency over the past decades there are still tremendous opportunities for savings. Our experience indicates that up to 30 percent energy savings can still be achieved in the many facilities that have not initiated comprehensive energy savings programs. Investing in energy efficiency would increase shareholder value, improve competitiveness, reduce costs, and create healthier environments for employees.

We support the strong focus on CHP provided by the *Smart Energy Act*. CHP offers a significant opportunity for industry to generate electricity and thermal energy concurrently, yielding higher efficiencies than standard energy generation. CHP also faces significant deployment barriers that

[4] As a Better Buildings Better Plants Challenge Partner, Schneider Electric has committed to reducing the energy use of 9 million square feet of building space, covering 40 different plants, by 25%. The company's showcase project includes pursuing Superior Energy Performance certification at a Smyrna, TN manufacturing plant site that includes a recently installed 1,000 kilowatt dual voltage solar farm. This solar farm is the first dual voltage solar farm in the U.S. with the ability to operate at both 1000VDC and 600VDC, providing an opportunity for more efficient solar farm operation and giving us a real-time learning lab to research and test our renewable energy solutions.

are economic, financial, political and regulatory. The *Smart Energy Act* will help to understand and address some of these issues.

However, there is an also a significant opportunity for industrial energy efficiency through the systemic implementation of control and automation in the industrial sector. Many programs focus on an end device such as a motor or transformer for energy savings. But industry requires a more comprehensive view of the entire process and its management to optimize energy use, quality and production. The dynamic nature of manufacturing also requires a consistent lifecycle approach.

Today our experience shows that many energy intensive companies are very focused on energy efficiency. More can be done but the focus is there.

However, this is not as common with factories that have low energy intensity. In these cases the priority for energy efficiency is low and the hurdle costs for the initial investment are high relative to other priorities. We would estimate that of the approximately 200,000 factories in the U.S, the top 20,000 facilities in energy use have focused energy management programs, while the next 180,000 do not. There is a tremendous opportunity here to understand how to incentivize energy efficiency investment with the next tier of facilities.

Current policies and investments do not adequately address energy savings opportunities. Therefore, comprehensive approaches to identify, generate, and promote industry energy

efficiency and savings are needed. We see several areas of opportunity for improving the investment in industrial energy efficiency:

Industry Study

The discussion draft contains a directive to the Department of Energy to conduct a study coordinated with industry to understand and identify the economic, behavioral, legal, and regulatory barriers to the deployment of industrial energy efficiency. Much of the study described in the legislation is focused on efficiency achieved through CHP. Our industry seeks the answers to many of the same questions, but as they relate to industries of low energy intensity. We believe broadening the study proposed in the *Smart Energy Act*, or conducting a separate one alongside it, would increase the understanding of economic, behavioral, legal and regulatory barriers facing this portion of the industrial sector.

DOE Deployment Programs

Deployment programs at DOE have been impactful. We believe these programs, such as the Advanced Manufacturing Office, should be encouraged to place a greater focus on education, tools, and deployment to promote adoption of existing energy-saving technologies here and now.

ISO 50001

The International Organization for Standardization's (ISO) new standard, ISO 50001, provides a framework for industrial facilities seeking to manage their energy use, drawing on the success of established environmental and quality management standards. It is important to establish strong

Federal Government support for the deployment of ISO 50001. The Federal Government should consider the use and adoption ISO 50001 in their federal programs.

Workforce Development

Currently there is a shortage of adequately trained energy management engineers and technical personnel. We recommend leveraging industry energy efficiency solution providers to partner with the current DOE Industrial Assessment Center educational program and create intensive field internships for the development of energy managers. This could be partially funded by the DOE to incentivize participation.

Conclusion

On behalf of the National Electrical Manufacturers Association, I appreciate this opportunity to testify before the Subcommittees and I look forward to answering any questions you may have about this testimony or the opportunities we have to address our energy challenges. NEMA, FPCC, and their members stand ready to assist in advancing this important legislation.

Mr. WHITFIELD. And, Mr. Nadel, you are recognized for 5 minutes.

STATEMENT OF STEPHEN NADEL

Mr. NADEL. Thank you very much, Mr. Chairman.

Yes, my name is Steve Nadel, and I am the executive director of the American Council for an Energy-Efficient Economy. We are a nonprofit research organization formed in 1980, and just a couple years ago we celebrated our 30th anniversary.

We are a nonpartisan organization. In our view, energy efficiency is the quintessential nonpartisan issue. This is illustrated by the Smart Energy Act that is before us today. We thank Representatives Bass and Matheson for introducing this bill and hope that the Energy and Power Subcommittee and the full committee will report it out favorably soon.

I have a few points I wanted to summarize here in my oral comments.

First, energy efficiency is a key energy resource for the United States. As discussed in my written testimony, energy-efficiency savings since 1970 make energy efficiency our number-one energy source today. This is shown by improvements in energy use per dollar of GDP, which has declined dramatically. Studies by McKinsey and Company, as well as our own organization, ACEEE, show that further cost-effective energy-efficiency opportunities can reduce U.S. energy use by 20 percent or more. The costs of energy efficiency are generally lower than other resources and with a higher macroeconomic multiplier effect because energy efficiency tends to be labor-intensive rather than capital-intensive.

Unfortunately, the United is now lagging behind many leading countries in energy efficiency, which increases waste in our country and the cost of American goods and services. Just this morning, ACEEE released our first international energy-efficiency scorecard, which compared 12 of the world's largest economies on 27 different metrics dealing with energy consumption and energy policies.

Mr. NADEL. Across the 12 countries we reviewed, the United Kingdom came in first, followed by German, Italy and Japan. At our press conference, we had the United Kingdom's ambassador to the United States, who talked about how his government really views energy efficiency as a key strategy for helping to make them more competitive. He talked about the many business-friendly and low-cost policies that they are adopting to help further energy efficiency in their country.

The U.S., unfortunately, was ninth on our score card, far from the global leader we aim to be. We were fourth on building efficiency and sixth on industrial efficiency, so pretty good there, but we really did lack on transportation efficiency.

If we are to fully compete with other countries, we need to redouble our efforts to be more efficient. A good place to start is the Smart Energy Act. This Act will have a variety of useful provisions recognizing the importance of energy saving performance contracts, as several of the other witnesses have described, reduces energies for data processing. It sets a goal of doubling the amount of electricity from combined heat and power which we agree with the other witnesses is a very important source of additional power and

efficiency. And it requires a study on ways to reduce barriers to the deployment of industrial energy efficiency, and we agree, there are large opportunities there such as through much wider pursuit of use of ISO 50001.

However, while this still does contain many useful provisions, much more can and should be done. In my written testimony, I suggest five possible additions to this bill. Just to summarize one or two of those now: first, support for model and State building codes. National model building codes are developed by two nonprofit organizations. DOE provides technical assistance to these bodies and also assists States with considering whether to adopt these codes. We recommend that DOE set energy-saving goals for the model codes to help guide their development. We also recommend that DOE expand its work with the States to assist them to adopt and implement these codes.

The second suggestion has to do with building training and assessment centers. Presently, a very effective program the Department of Energy has, a very small program, just a few million dollars, is to work with professors at universities to help train engineering students in industrial energy auditing techniques. They do audits of small- and medium-sized firms, helping those firms reduce their energy use, and the students get very valuable job training. In fact, upon graduation, they usually have multiple job offers. We recommend that this program be extended to the building sector and not just the industrial sector.

Now, ACEEE in May published an analysis of the cost and benefits of a bill with provisions very similar to those of the Smart Energy Act, as well as some of the enhancements that we recommend. We found that such a bill would reduce U.S. Energy consumption in to 2030 by about 2 percent, and that would drive annual consumer energy cost savings of about $23 billion.

Furthermore, based on our detailed macroeconomic analysis, we estimate that such a bill would create about 100,000 jobs by 2020; about 185,000 jobs by 2030.

So, in conclusion, I would say that energy efficiency is the key part of an all-of-the-above energy strategy. Energy efficiency has reduced U.S. energy use substantially and much more is possible, and the Smart Energy Act is a very good place to start, and we hope you will report it out favorably. Thank you.

[The prepared statement of Mr. Nadel follows:]

ACEEE Testimony
American Council for an Energy-Efficient Economy

Submission of Steven Nadel,
Executive Director
American Council for an Energy-Efficient Economy (ACEEE)

To the House Energy and Commerce Committee

Subcommittee on Energy and Power
Subcommittee on Oversight and Investigations

Hearing on:
Smart Energy Act

July 12, 2012

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SUMMARY

Energy efficiency is a key part of an "all of the above" energy strategy. Energy efficiency has reduced U.S. energy use by about half since 1970 and much more is possible. Energy efficiency is typically less expensive per unit of energy than most energy supplies, and energy efficiency is more labor intensive, helping to create more jobs. Unfortunately, a series of market barriers keeps investments in energy efficiency below optimal levels. Smart policies can help address some of these market barriers, helping the private market to better capture these efficiency opportunities.

The Smart Energy Act is a useful piece of legislation to increase energy efficiency in the United States. Provisions will foster energy efficiency investments in federal facilities by private companies, reduce energy use for data processing, and increase use of combined heat and power systems. These will be important contributors to reducing energy waste in the United States.

However, significantly more can be done. We recommend that the Committee look at adding some additional provisions, particularly ones related to improving model building codes, training building engineers, encouraging efficiency upgrades to existing buildings and modernization of manufacturing facilities, and making consensus improvements to equipment efficiency standards. A recent analysis ACEEE prepared on the impacts of such provisions found that such a bill would reduce U.S. energy consumption in 2030 by 2.3 quadrillion Btu, about 2 percent of projected energy use that year, while creating about 185,000 jobs by 2030.

INTRODUCTION

My name is Steven Nadel and I am the Executive Director of the American Council for an Energy-Efficient Economy (ACEEE), a nonprofit organization dedicated to increasing energy efficiency to promote both economic prosperity and environmental protection. We were formed in 1980 by energy researchers and celebrated our 30th anniversary in 2010. Personally I have been involved in energy efficiency issues since the late-1970s and have testified multiple times before this Committee and its Subcommittees as well as before the Senate Energy and Natural Resources Committee,

ACEEE is a nonpartisan organization. Today I appear as a Democratic witness but during the development of the *Energy Policy Act of 2005* I appeared several times as a Republican witness. In our view, energy efficiency is a quintessentially nonpartisan issue. This is illustrated by the Smart Energy Act that is before us today. We thank Representatives Bass and Matheson for introducing this bill and hope the Energy and Power Subcommittee and the full Committee will report it out favorably.

In my testimony I wish to make two primary points:

1. Energy efficiency is a key energy resource for the United States, with costs generally lower than other resources and with a larger macroeconomic multiplier effect. Unfortunately, the United States is now lagging behind many leading

countries in energy efficiency, which increases waste and the cost of American goods and services. If we are to fully compete with other countries, we need to be more efficient.

2. The Smart Energy Act is a start, but significantly more can be done. We make some recommendations and summarize a recent analysis ACEEE prepared on the impacts of a bill with these features.

I would also like to make a brief comment about loan guarantees and suggest an alternative approach.

ENERGY EFFICIENCY IS A KEY RESOURCE

Energy efficiency improvement has contributed a great deal to our nation's economic growth and increased standard of living over the past 40 years. Energy efficiency improvements since 1970 accounted for approximately 100 quadrillion Btu in 2010, which is *about as much energy as we consume each year and more than the energy we get annually from domestic coal, natural gas, and oil sources combined.*[1] Thus, energy efficiency ran rightfully be called our country's largest energy source. Since 1970, energy use per dollar of GDP has declined 53 percent. If the United States had not dramatically reduced its energy intensity over the past 40 years, consumers and businesses would have spent about $1.2 billion more on energy purchases in 2009.[2]

More recently, there has been much attention on the expansion of oil and gas production in the United States due to hydraulic fracturing and other new techniques. While these gains are notable and useful, energy efficiency gains have been much larger. As shown in Figure 1, since 1997 when modern hydraulic fracturing began,[3] the contribution of energy efficiency towards our energy mix has been much larger than post-1997 additions to domestic oil and gas production. Hydraulic fracturing and other advanced techniques have also helped to maintain historic levels of domestic oil and gas production, but even if this production is added to the "additions" wedge in the chart, energy efficiency gains since 1997 would still be substantially larger than the contribution from advanced oil and gas resources.[4]

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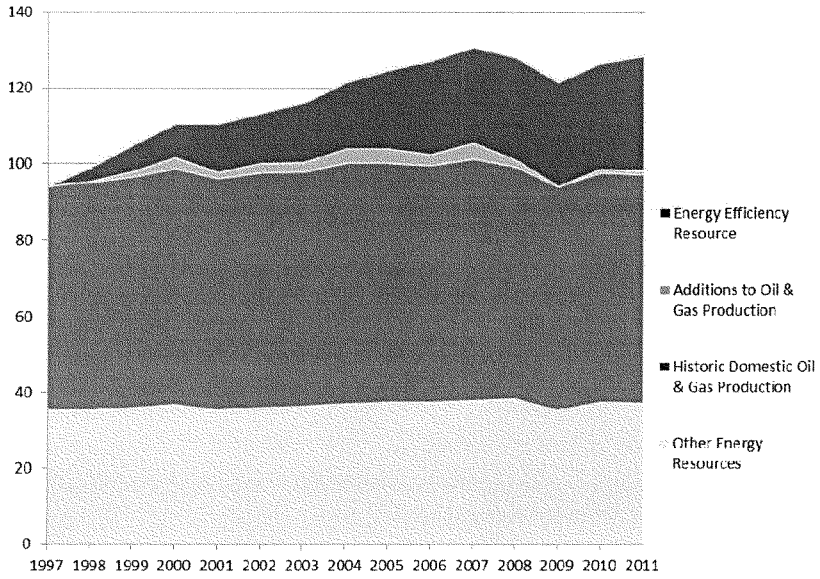
[1] See Figure 1 in Laitner et al. 2012. *The Long-Term Energy Efficiency Potential.* American Council for an Energy-Efficient Economy. http://www.aceee.org/research-report/e121.

[2] Derived by ACEEE from EIA's *Annual Energy Review 2011,* Table 1.5. 2010 expenditures were not included yet.

[3] Parshall. 2008. "Barnett Shale Showcases Tight Gas Development." *Journal of Petroleum Technology.* September. .http://www.spe.org/jpt/print/archives/2008/09/JPT2008_09_12BarnettShaleREV.pdf .

[4] According to data in the EIA's *Annual Energy Outlook 2012,* "tight oil" represented about 10 percent of U.S. oil production in 2011 while shale gas represented about 30 percent of U.S. natural gas production in 2011.

Figure 1. U.S. Energy Resources 1997–2011



Source: Data from EIA except for energy efficiency, which was derived by ACEEE from EIA data on energy use per dollar of GDP.

Even though the United States is much more energy efficient today than it was 40 years ago, there is still enormous potential for additional cost-effective energy savings. A 2009 study by McKinsey and Company found that widespread pursuit of comprehensive energy efficiency efforts:

> would yield gross energy savings worth more than $1.2 trillion, well above the $520 billion needed through 2020 for upfront investment in efficiency measures (not including program costs). Such a program is estimated to reduce end-use energy consumption in 2020 by 9.1 quadrillion BTUs, roughly 23 percent of projected demand, potentially abating up to 1.1 gigatons of greenhouse gases annually.[5]

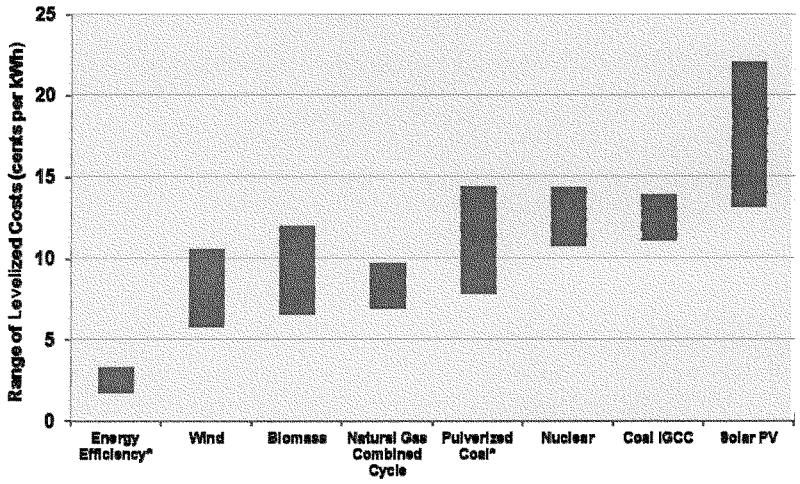
Looking farther into the future, a January 2012 study by ACEEE found that by 2050, energy efficiency measures and practices could reduce U.S. energy use by 42-59 percent relative to current projections, and in the process save consumers and

[5] McKinsey & Company. 2009. *Unlocking Energy Efficiency in the US Economy.*

businesses billions of dollars, raise gross domestic product in 2050 by $100-200 billion, and support 1.3-1.9 million jobs in 2050.[6]

Energy efficiency investments have a variety of important economic benefits. For example, energy efficiency tends to be less expensive than most energy supply resources. Figure 2 compares the cost to the utility of energy efficiency investments and new power supply investments.

Figure 2. Levelized Cost per kWh for Different Electricity Resources

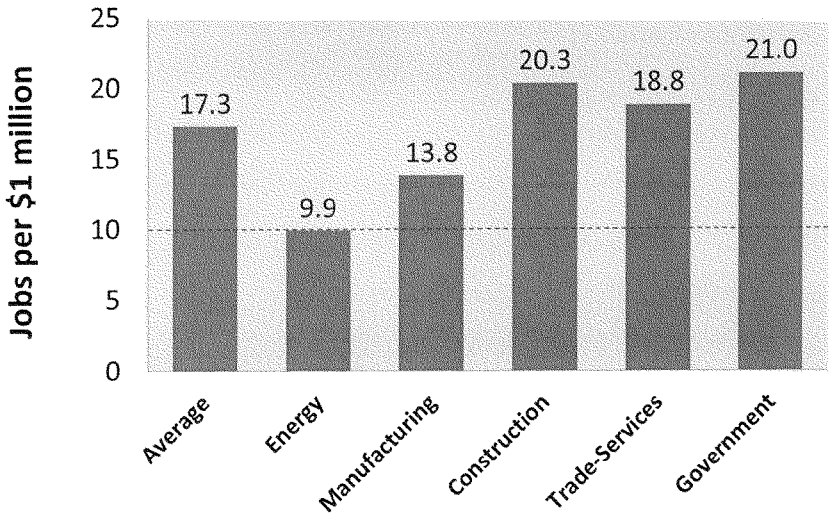


***Notes: Energy efficiency average program portfolio data from Friedrich et al. 2009 (ACEEE); All other data from Lazard 2011. High-end range of advanced pulverized coal includes 90% carbon capture and compression.**

Likewise, energy efficiency tends to be very labor-intensive, helping to create jobs. First, jobs are created designing, manufacturing, and installing efficiency measures. Second, as consumers and businesses save on their energy bills, they respend the savings, generating additional jobs. Figure 3 shows how more jobs are generated per dollar invested in construction and services (where most of the energy efficiency jobs are) than in the energy sector (which is capital but not labor intensive).

[6] Laitner et al. 2012. *The Long-Term Energy Efficiency Potential.* American Council for an Energy-Efficient Economy. http://www.aceee.org/research-report/e121.

Figure 3. Jobs per Million Dollars of Revenue by Key Sectors of the U.S. Economy



Source: ACEEE. *How Does Energy Efficiency Create Jobs.* http://www.aceee.org/fact-sheet/ee-job-creation.

Unfortunately, a variety of market barriers keep these savings from being implemented. These barriers are many-fold and include such factors as "split incentives" (landlords and builders often do not make efficiency investments because the benefits of lower energy bills are received by tenants and homebuyers); panic purchases (when a product such as a refrigerator needs replacement, there often is not time to research energy-saving options); and bundling of energy-saving features with high-cost extra "bells and whistles."

Today, ACEEE is releasing its first *International Energy Efficiency Scorecard*, which compares the United States with eleven of the other largest economies in the world. I will provide the results at the hearing, but in these written comments I can note that the U.S. is far from number one. Many of our trade competitors are making much more progress on energy efficiency than we are, reducing their energy waste and energy costs and helping to make their goods and services more competitive. It is time for the U.S. to "up our game" to better compete in world markets.

THE SMART ENERGY ACT IS A GOOD START BUT SHOULD BE STRENGTHENED

The Smart Energy Act recognizes that energy efficiency is an important part of an "all of the above" energy strategy. The Smart Energy Act contains some useful provisions that:

- Recognize the importance of Energy Saving Performance Contracts for reducing federal energy use, leveraging capital from the private sector and paying off this capital with the energy bill savings that result.
- Reduce energy use for data processing equipment by consolidating federal data centers and encouraging use of personal computer power-saving techniques by federal agencies.
- Set a goal of doubling the amount of electricity from combined heat and power systems and developing and implementing a strategic plan for achieving this goal.
- Require a study on ways to reduce barriers to the deployment of industrial energy efficiency.

However, while this bill contains useful provisions, much more can and should be done. We recommend that the bill be strengthened by adding several provisions:

1. **Support for Model and State Building Codes.** National model building codes are developed by the International Code Council (ICC) and the American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE). DOE provides technical assistance to these bodies and also assists states who are considering adopting these codes. We recommend that DOE set energy saving goals for model codes and expand its work to encourage and assist states to adopt and successfully implement these codes.

2. **Building Training and Assessment Centers.** Presently DOE has a very successful program to help train new energy efficiency engineers by working with university professors and their students to conduct energy audits of small to medium-sized manufacturing facilities. The students gain practical work experience and the manufacturers get a low-cost energy audit. Given this training, participating students usually receive multiple job offers upon graduation. We recommend that this program be expanded to include training of building engineers and not just industrial engineers.

3. **Loan Program for Energy Efficiency Upgrades to Existing Buildings.** Current law is unclear on whether energy efficiency retrofits qualify under the current section 1703 and 1705 credit support programs. We recommend that these sections be clarified to include energy efficiency. Also, as discussed further near the end of my testimony, we recommend that these programs be converted from loan guarantees to a loan loss reserve in order to rely more on the private market and limit federal exposure to bad loans.

4. **State Partnership Industrial Energy Efficiency Revolving Loan Program.** Many manufacturing plants are old and in need of modernization to help maintain their ability to compete internationally. As part of modernization, the energy efficiency of these plants can and should be improved. While very large firms can find the capital for such modernization on their own, smaller firms may have problems obtaining capital or may be forced to pay high interest rates. We recommend that Congress establish a revolving loan fund to aid modernization of manufacturing plants. Such a fund could be administered by states with a requirement that states match federal funding dollar for dollar. Loans can be made at the Treasury Note rate plus appropriate fees for administration and a loan-loss reserve. As loans are repaid, the principal can be loaned again.

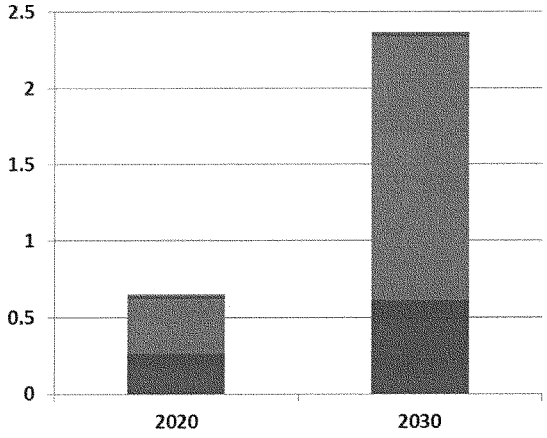
5. **Consensus Improvements to Equipment Efficiency Standards.** Over the past five years since the last major energy bill was enacted, a variety of improvements to the existing federal equipment efficiency standards program have received consensus endorsement from manufacturers, trade associations, utilities, states and energy efficiency organizations. These include technical corrections to previous bills, correcting unforeseen consequences from previous bills (e.g., the provisions of H.R. 5710 by Mr. Westmoreland and S. 920 by Senator Blunt), clarifying portions of existing law that are unclear, and adopting several new national consensus standards in order to replace a patchwork of state standards.

In May 2012, ACEEE published an analysis of the costs and benefits of a bill with provisions similar to those in Smart Energy Act plus the additional provisions I recommend. We found that such a bill would reduce U.S. energy consumption in 2030 by 2.3 quadrillion Btu, about 2 percent of projected energy use that year, which in turn would drive annual consumer energy savings of about $23 billion in 2030. Furthermore, such a bill would create about 102,000 jobs by 2020 and about 185,000 jobs by 2030.[7]

As part of our analysis, we examined the energy savings of individual provisions, as summarized in Figure 4. Most of the energy savings are provided by three provisions – those addressing building codes, industrial revolving loans, and equipment standards (labeled "INCAAA" in the figure[8]).

[7] Farley et al. 2012. *Impacts of Energy Efficiency Provisions in Pending Senate Energy Efficiency Bills.* American Council for an Energy-Efficient Economy. http://www.aceee.org/white-paper/shaheen-portman.
[8] INCAAA is the Implementation of National Consensus Appliance Agreements Act, a bipartisan provision developed by staff for Senators Bingaman and Murkowski.

Figure 42: Primary Energy Savings in Quads by Provision Analyzed



	BTAC	<0.01	<0.01
	Building Finance	0.02	0.01
	Transformers	<0.01	<0.01
	Building Codes	0.36	1.73
	Industrial Revolving Loans	0.08	0.14
	INCAAA	0.18	0.47
	Total	0.65	2.34

Source: Farley et al. 2012. See Footnote 7.

LOAN GUARANTEES VERSUS LOAN LOSS RESERVES

A final issue I wish to raise is the issue of loan guarantees versus other incentives for finance. Many concerns have been expressed about loan guarantees for renewable energy ventures over the past few years. It is important to note that similar guarantees have been offered for nuclear and advanced conventional energy resources as well. As the recent defaults on some of these loans have shown, when a loan guarantee goes bad, the federal government can be faced with the full cost of the loan.

A less costly alternative, which helps spread the risk, is to establish a loan loss reserve that covers defaults only up to a certain amount, say 10 percent of the loan pool. Beyond that, the private sector and not the federal government would need to deal with losses. Loan loss reserves reduce risk but do not eliminate it. By reducing risk, lower interest rates can be obtained, but not as low as when the federal government assumes all of the risk. For future programs, we recommend that Congress consider use of loan loss reserves in lieu of loan guarantees.

CONCLUSION

Energy efficiency is a key part of an "all of the above" energy strategy. Energy efficiency has reduced U.S. energy use by about half since 1970 and much more is possible. Energy efficiency is typically less expensive per unit of energy than most energy resources, and energy efficiency is more labor intensive, helping to create more jobs. Unfortunately, a series of market barriers keep investments in energy efficiency below optimal levels. Smart policies can help address some of these market barriers, helping the private market to better capture these efficiency opportunities.

The *Smart Energy Act* is a useful piece of legislation to increase energy efficiency in the United States. Provisions will aid energy efficiency investments in federal facilities by private companies, reduce energy use for data processing, and increase use of combined heat and power systems. However, significantly more can be done. We recommend that the House Energy and Commerce Committee consider incorporating additional provisions into the Smart Energy Act, as recommended in this testimony, and then favorably report the bill out of committee.

This concludes my testimony. Thank you for the opportunity to present these views.

Mr. WHITFIELD. Thank you very much.

And Ms. Callahan, you are recognized for 5 minutes.

STATEMENT OF KATERI CALLAHAN

Ms. CALLAHAN. Thank you, Chairman Whitfield, for holding this hearing today and giving me the opportunity to testify in strong support of the Smart Energy Act.

And as a fellow native Kentuckian, my gift to you is going to be to try to be very brief so that you can wind down the afternoon.

I am Kateri Callahan. I serve as the president of the Alliance to Save Energy. The Alliance is a bipartisan nonprofit coalition that is made up of over 160 different businesses, organizations, and institutions. They span every sector of our economy, and they come together to promote and drive energy efficiency worldwide.

We were founded in 1977, by Senator Chuck Percy, a Republican from Illinois, and Hubert Humphrey, a Democrat from Minnesota. And we have been working these last 35 years tirelessly to not only advance energy efficiency, but to do so in a way to drive productivity and stop energy waste.

We are delighted to count three members of this committee as our honorary chairs: Dr. Burgess, Mr. Bilbray, and Mr. Markey, speaking to the wide array of political interests that we can attract. They join 16 other Members of the Senate and House who serve as honorary members of our board.

On the Smart Energy Act, and energy efficiency policies like those contained in the Smart Energy Act, we see those, as many of my colleagues here have said, as the cheapest, the quickest, and the cleanest way to address the economic and security threats that attend to our current wasteful consumption of energy in this country.

Steve mentioned that we have made a lot of progress through energy efficiency. Our studies indicate and then in large measure, it is because of public policy, that today we are offsetting the need for about 50 quads of energy. Well, what is that? That is about half of the energy that we use. More important than just saving the energy is how much money that translates into. Our studies show that American governments, consumers, and businesses, are saving $450 billion every year because of progress that we have made on energy efficiency.

So national policies, like requirements for improved Federal energy management that you find in the Smart Energy Act to appliance standards, have important and proven benefits to our country. And that is recognized not just by nonprofit groups and advocacy groups like Steve Nadel's and mine, but I have here 62 pages representing 26 reports from organizations as diverse as the National Petroleum Council to the Business Roundtable to Deutsche Bank and on, and on, stating the benefits, the clear benefits, of national energy policy to our country.

So I won't go through those because I think a number of them have been discussed already in this hearing, but I would like this put forward and into the record if I could, please.

Mr. WHITFIELD. Yes, it will be admitted into the record.

[The information is available at http://www.ase.org/sites/default/files/notable__and__quotable__2012__june__12__final.pdf.]

Ms. CALLAHAN. Great. The Alliance commends both Congressmen Bass, here today, and Jim Matheson for their leadership on the Smart Energy Act. We see this bill as standing as a testament to the fact that energy efficiency is an issue that draws support not just across political boundaries but also have all regions of the country and all quarters of our economy. The legislation is supported by scores of businesses and organizations that don't often find themselves on the same side of the page. We submitted for the record a letter of support from 60 different businesses, and you will find on that the U.S. Chamber of Commerce side by side with the Natural Resources Defense Council. This is a bill that enjoys very wide support.

How did they do this? They are using low- to no-cost and commonsense policies that are going to lower Federal energy bills and that is going to benefit taxpayers. As Jeff noted, they are creating good-paying jobs through greater use of ESPCs, and they are creating government and private sector partnerships, as noted by Mr. Marrone, that are going to drive efficiency into the manufacturing sector and therefore enhance our global competitiveness.

So, at this time in our economy when too many Americans are suffering financial hardship, energy efficiency, we believe, can add much needed relief. American households, our studies indicate, are spending about $5,500 a year on energy costs. That has increased by 14 percent in just the last 2 years in this very bad economy. These costs are of greatest concern to low-income households where they can gobble up as much as 20 percent of the family's monthly income.

Bass-Matheson does not address the residential sector, but you do have another bill before you by Mr. McKinley, the HOMES Act, that would provide rebates to consumers for comprehensive energy efficiency upgrades. We support that bill and put it forward to you and recommend it to your consideration.

So as we struggle—as you struggle, really, to find ways to put Americans back to work. We think energy efficiency offers a path forward. The Brookings Institute released an assessment last year that indicated that in 2010, the energy resource efficiency segment of our economy accounted for 830,000 of the jobs nationwide. And as you seek to right America's economy, we believe investment in energy efficiency should be a top priority of this committee and this Congress. With government assistance, McKenzie Institute has said with a significant investment in energy efficiency, we could save $1.2 trillion in avoided energy costs just between now and the end of the decade.

So the Alliance views the Bass-Matheson proposal really as an across-the-board win for America, and we urge you to approve it quickly and get it to the House floor.

We are not kidding ourselves. This is not everything that the efficiency community wants in terms of national energy efficiency policy, absolutely not, but it is absolutely a good move forward, a very meaningful bill, and will benefit all of America. Thank you.

[The prepared statement of Ms. Callahan follows:]

ALLIANCE TO SAVE ENERGY

Using less. Doing more.

The American Energy Initiative:
One Page Summary of Testimony

Statement of Kateri Callahan, President, The Alliance to Save Energy
Before
House Energy and Commerce Committee, Subcommittee on Energy and Power and
Subcommittee on Oversight and Investigations
July 12, 2012

Energy efficiency measures are the quickest, cheapest, and cleanest way to tackle growing energy demand, which contributes to today's economic challenges. Wasted energy is a costly drag on our economy, but energy efficiency contributes more toward meeting our energy needs than any other resource. Without the numerous energy efficiency improvements made since 1973, the United States would require an additional 50% more energy to power the current economy.

At a time when too many Americans are suffering financial hardships, energy efficiency offers real solutions that not only help alleviate their pain, but also deal with the economic, environmental and national security problems associated with rising energy use. National energy efficiency policies save money, lessen dependence on imported energy sources, decrease pollution and improve our nation's global competitiveness. In addition, these initiatives enable domestic businesses to leverage private capital, reduce business risk from energy price volatility, spur economic growth, and create jobs.

Toward those ends, the Smart Energy Act would reduce barriers for the federal government and businesses seeking to adopt off-the-shelf energy efficiency technologies that will save money. It includes several provisions to reduce energy waste in federal buildings and to help improve industrial efficiency. Congressmen Bass and Matheson have drafted a bipartisan measure that will move our country significantly closer toward enactment of energy efficiency legislation this year that can create jobs and benefit the nation's economy.

Opening Statement of Kateri Callahan
President
The Alliance to Save Energy

Hearing on "The American Energy Initiative"
Subcommittee on Energy and Power and the Subcommittee on Oversight and Investigations
Committee on Energy and Commerce
U.S. House of Representatives
July 12, 2012

Good morning, my name is Kateri Callahan and I am the President of the Alliance to Save Energy. It is my pleasure to be appearing before the Subcommittees on Energy and Power and Oversight and Investigations to testify in support of the Smart Energy Act. Chairmen Whitfield and Stearns, Ranking Members Rush and DeGette, thank you for affording me the opportunity to discuss the important role of energy efficiency policies – including those contained in this proposal – can play in helping create jobs, save businesses and consumers money, and increase the productivity of our economy.

For the past 35 years, the Alliance to Save Energy ("the Alliance") has capably served as a bipartisan, nonprofit coalition of business, government, environmental, and consumer leaders committed to promoting energy efficiency worldwide to achieve a healthier economy, a cleaner environment, and greater energy security. Founded in 1977 by Senators Charles Percy, a Republican from Illinois, and Hubert Humphrey, a Democrat from Minnesota, the Alliance has worked tirelessly to improve the efficiency of America's energy resources, and to make certain

that energy is not wasted. Our organization is currently led by Senator Mark Warner, as Honorary Chairman, and National Grid USA President, Tom King as Chairman of our Board of Directors. Representatives Michael Burgess, Ed Markey, Brian Bilbray, Steve Israel, Ralph Hall, and Paul Tonko, and Senators Jeff Bingaman, Lisa Murkowski, Mark Udall, Susan Collins, Mark Pryor, Richard Lugar, Jeanne Shaheen, Rob Portman and Chris Coons serve as Honorary Vice-Chairs. We are deeply honored that three members of the Energy and Commerce Committee serve as Honorary Board members of the Alliance. More than 160 companies and organizations support the Alliance as Associates.

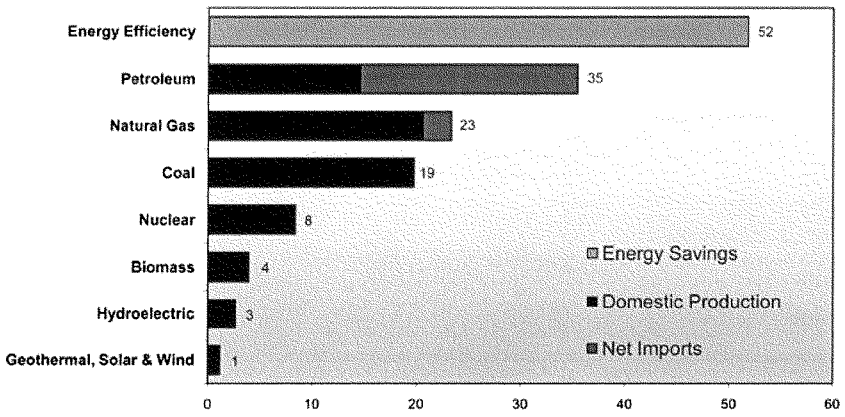
The Alliance commends Representatives Charles Bass and Jim Matheson for their outstanding leadership on H.R. 4017, the Smart Energy Act, which was the result of many months of hard work and collaboration. This important initiative would move our country significantly closer toward enactment of energy efficiency legislation this year, and assist our ongoing efforts to alleviate the economic, environmental and security problems associated with our country's current wasteful energy use. It has been publicly endorsed by a remarkable range of businesses, trade associations, consumers, environmentalists and energy efficiency advocates. Attached is a letter of support for this legislation from almost 60 businesses and organizations, including Honeywell, Ingersoll Rand Company, Johnson Controls Incorporated, United Technologies Corporation and the Natural Resources Defense Council.

For nearly forty years, the Alliance has promoted federal policies to increase the nation's energy efficiency, which is the cheapest, quickest and cleanest energy resource. But there has

never been a more critical moment for the federal government to aid private industry's ability to tap the potential of energy efficiency to meet America's energy demands. Without the numerous energy efficiency improvements made since 1973, the United States would be employing 50% more energy to power the economy (see figure below). And even with those efficiency gains, domestic energy requirements are still projected to increase about 9% by 2035, according to the U.S. Energy Information Administration. Effective energy efficiency strategies will not only play a role in meeting this demand but will also incentivize greater technology development and cut energy costs.

Energy Efficiency: America's Greatest Energy Resource

Sources of U.S. Energy in 2009



Alliance to Save Energy, August 2010

At a time when too many Americans are suffering financial hardships, energy efficiency offers real solutions that would not only help alleviate their economic pain, but also deal with the short- and long-term problems associated with rising energy use. In 2012, the Alliance projects

that the average American household will spend a combined $5,550 a year on residential and transportation energy consumption, a cost which has grown 1% since last year and increased by 14% since 2010. Besides lowering energy expenses for those who implement efficiency measures, energy efficiency reduces energy price pressure across the board, creates jobs, lessens dependence on imported energy sources, reduces pollution and its health and environmental impacts, improves America's global competitiveness, and alleviates stress to the electric grid and water infrastructure.

A 2009 report by McKinsey & Company estimated that – with government assistance – a $500 billion investment in energy efficiency could result in savings of $1.2 trillion and a 23% reduction in projected non-transportation energy use by 2020. And the Brookings Institute released an assessment last year indicating that in 2010 the energy and resource efficiency segment of the economy accounted for more than 830,000 jobs nationwide.

Federal Energy Management

As the nation's greatest energy consumer, the federal government – which spends in excess of $7 billion annually to heat, cool and operate its more than 500,000 buildings and facilities – should play a unique role in promoting energy efficiency. Cost-effective energy efficiency improvements in Federal buildings, equipment, and vehicles would save taxpayer dollars, reduce dependence on foreign sources of energy, and improve the reliability and security of achieving federal agency missions, including those in national defense. Many agencies and managers have already begun targeting this portion of the federal government's energy usage

by providing additional opportunities for private sector utilization of energy efficient technologies and systems, but there is still room for significant improvement.

In 2006, data centers in the United States used about 61 billion kilowatt hours (kWh) of electricity, representing approximately $4.5 billion in expense and accounting for 1.5% of total domestic electricity use. By the end of 2010, overall information technology (IT)-related energy needs consumed approximately 2.2% of all U.S. electricity and that number continues to increase. Mounting energy use presents an added cost to consumers and a risk for our nation due to an aging grid. As data centers require more energy, and as the number of data centers needed to meet consumer demand grows, it will become increasingly important to make them more efficient.

However, computers offer an important resource for increasing the nation's energy efficiency. As such, the federal government has the ability to use advanced tools that promote energy savings through the use of computer hardware, energy efficiency hardware and power management tools.

Section 101 under Title I of the discussion draft would expand the federal government's use of energy savings performance contracts (ESPCs) to meet existing energy management requirements, support the deployment of electric vehicles or electric vehicle supply equipment, and increase the scope of ESPCs to include electric vehicles and their charging infrastructure.

Other provisions under Title I would require the federal government to participate in demand response programs (**Section 102**); consolidate data centers (**Section 103**); adopt energy-saving techniques via computers (**Section 104**); implement advanced metering (**Section 105**) and publish energy use (**Section 106**).

Providing Opportunities for Energy Efficiency in Business and Industry

Since the 1970s, energy efficiency and energy management programs for manufacturers have evolved substantially. While many government and utility programs currently provide valuable tools, best practices, and guidance that can help industrial-end users save energy and improve competitiveness, there are other areas for other opportunities to embrace energy management and sustainability strategies.

Now with price volatility, climate change and other concerns, the business case for energy efficiency today is much broader. According to the studies reported by the National Research Council in 2009, the potential for improved energy efficiency in industry is large. Of the 34.3 quads of energy forecast by the U.S. Energy Information Administration to be consumed by American industries in 2020, 14 to 22 percent could be saved through cost-effective energy efficiency improvements.

Many industrial plants generate sizable amounts of heat from chemical reactions and burning fuel. The unused excess or waste heat from these processes is typically released into the environment via exhaust gas or coolant water. Besides presenting opportunities to reduce unnecessary heat, these waste heat streams often contain significant amounts of energy that

can be usefully recovered to pre-heat process materials and combustion air or to generate steam or electricity. According to the U.S. Department of Energy in 2007, domestic fuel-based process heating (excluding electricity and steam generation) consumes approximately 5 quadrillion British thermal units (Btu) annually – about 5 of U.S. energy use – of which as much as 50% is exhausted.

While capturing excess heat is not a new concept, its implementation has been uneven. And the broader application of industrial efficiency technologies that are available for deployment is impeded by barriers such as the up-front investment costs, and the lack of specialized knowledge and inadequate flow of information.

In response to market barriers that impede further energy efficiency investments, **Section 201 of Title II** of the discussion draft would call upon the U.S. Secretary of Energy to complete a study within a year outlining the legal, regulatory and economic barriers to the deployment of efficiency measures, and include examples of successful state, federal and foreign efficiency policies combined with combined with Department recommendations. The legislation would also help manufacturers reduce energy use and increase competitiveness by creating collaborative research and commercialization partnerships within the U.S. Department of Energy to promote innovative manufacturing processes (**Section 202**), and direct the Department to develop a strategic plan to double the production of electricity from combined heat and power and waste heat recovery by 2020 (**Section 203**).

The Alliance to Save Energy and its Associate members support the objectives of H.R. 4017, the Smart Energy Act, and hope that energy efficiency stakeholders will be included in the forthcoming dialogue on the discussion draft and ways in which to advance it through the committee process.

Conclusion

While today's economic and political challenges make it increasingly difficult to advance national energy policies, bipartisan initiatives that stop energy waste can move the country forward in creating jobs, saving businesses and consumers money, and increasing the productivity of our economy.

With similar energy efficiency legislation in the form of the Energy Savings and Industrial Competitiveness Act (S. 1000), which was approved on a bipartisan 18-3 vote last summer by the Senate Committee on Energy and Natural Resources and served as a model for H.R. 4017, both chambers could have the basis for increasing our nation's energy efficiency this year. The authors of the bipartisan Smart Energy Act – and the many businesses, consumers, environmental and efficiency advocates who worked with the authors to craft this measure – understand that efficiency technologies are available today. More importantly, the provisions contained in the bill can be fully deployed in every state across the country, and pay for themselves from the energy savings.

The Alliance to Save Energy looks forward to working with the Energy and Commerce Committee to enhance the discussion draft, and hopes that the Committee will work with

House leadership to bring a bipartisan energy efficiency initiative to the floor for a vote as soon as possible.

Thank you for your time and attention, and I would be glad to respond to any questions that you may have.

March 15, 2012

The Honorable Charles Bass
United States House of Representatives
2350 Rayburn House Office Building
Washington, DC 20515

The Honorable Jim Matheson
United States House of Representatives
2434 Rayburn House Office Building
Washington, DC 20515

Dear Congressmen Bass and Matheson,

As a broad coalition of energy efficiency and environmental organizations, small and large businesses, and public interest and faith based groups, we applaud your introduction of the Smart Energy Act of 2012 (H.R. 4017), and look forward to working with you to ensure that this important bipartisan measure is enacted into law.

Wasted energy is an obvious costly drag on the economy. As we emerge from the economic recession, it bears re-emphasizing that energy efficiency is the quickest, cheapest and cleanest way to meet our nation's energy demands.

As the nation's greatest energy consumer, the federal government – which spends in excess of $7 billion annually to heat, cool and operate its more than 500,000 buildings and facilities – should play a unique role in promoting energy efficiency. By targeting this portion of the federal government's energy usage and providing additional opportunities for private sector utilization of energy efficient technologies and systems, the Smart Energy Act would help improve U.S. energy efficiency, reducing costs for consumers and businesses and making American industry more competitive and lessening our dependence on imported sources of energy at a critical time.

Toward those ends, H.R. 4017 would reduce barriers for the federal government, businesses and consumers seeking to adopt off-the-shelf energy efficiency technologies that will save money by:

- Expanding the federal government's use of energy savings performance contracts to meet existing energy management requirements and support the deployment of electric vehicles or electric vehicle supply equipment;

- Requiring the federal government to participate in demand response programs, adopt energy-saving techniques via computers, implement better building standards and advanced metering and benchmark energy use through data collection and management practices;

- Boosting private sector investments in building efficiency upgrades by enlarging the U.S. Department of Energy's (DOE) Loan Guarantee Program;

- Helping manufacturers reduce energy use and increase competitiveness by creating collaborative research and commercialization partnerships within DOE to promote innovative manufacturing processes; and

- Establishing a strategic plan to double the production of electricity from combined heat and power and waste heat recovery by 2020.

Without the numerous energy efficiency improvements made since 1973, the United States would be using 50 percent more energy to power the economy. And even with those efficiency gains, our nation's energy requirements are still projected to increase about 20 percent by 2035, according to the U.S. Energy Information Administration.[1]

We recognize the significant challenges facing the federal government, yet we strongly believe that your legislation should be considered as a component of our continuing efforts to alleviate the country's economic, environmental and security problems associated with growing energy use. Moreover, the Smart Energy Act would apply practical, cost-effective measures to tackle federal energy consumption, and spur private sector utilization of energy efficiency technologies and systems. It would also help create new jobs and assist those American families and businesses who are struggling to lower their energy expenses.

We commend you again for your leadership in developing this proposal, and offer our support to help enact this measure in the 112th Congress.

Sincerely,

Alliance to Save Energy
Alliance for Industrial Efficiency
American Council for an Energy-Efficient Economy
American Institutes of Architects
American Public Power Association
ASHRAE
Center for the Celebration of Creation
Ceres
Citizens for Pennsylvania's Future (PennFuture)
Colorado Green Building Guild
Council on North American Insulation Manufacturers Association
Danfoss
Demand Response and Smart Grid Coalition (DRSG)
Digital Energy & Sustainability Solutions Campaign
Earth Day Network
Energy Future Coalition
Environment America
Environmental and Energy Study Institute
Environmental Law and Policy Center
Federal Performance Contracting Coalition
FlexEnergy Inc.
Fresh Energy

[1] Alliance to Save Energy, America's Greatest Resource, 2011. http://ase.org/resources/energy-efficiency-americas-greatest-energy-resource.

Habitat for Humanity International
Honeywell
Information Technology Industry Council
Ingersoll Rand Company
Institute for Market Transformation
Intel Corporation
Interfaith Power & Light
Johnson Controls Incorporated
Legrand
Midwest Energy Efficiency Alliance
National Association for State Community Services Programs (NASCSP)
National Association of Energy Service Companies (NAESCO)
National Association of State Energy Officials (NASEO)
National Electrical Manufacturers Association (NEMA)
National Grid
Natural Resources Defense Council
Owens Corning
Pacific Gas & Electric Company
Panisonic Corporation of North America
Polyisocyanurate Insulation Manufacturers Association (PIMA)
Rebuilding Together
Republicans for Environmental Protection
Schneider Electric
Sheet Metal and Air Conditioning Contractors National Association
Siemens
Southeast Energy Efficiency Alliance
Southern Alliance for Clean Energy
Telecommunications Industry Association
The Center for Environmental Innovation in Roofing
The Dow Chemical Company
The Stella Group, Ltd.
U.S. Clean Heat & Power Association
U.S. Green Building Council
Union of Concerned Scientists
United Technologies Corporation
Utah Clean Energy

Mr. WHITFIELD. Well, thank you, Ms. Callahan.

And thank all of you for your testimony.

I want to thank you for also bringing to our attention this International Energy Efficiency Score Card, which I guess was released today, is that right?

Mr. NADEL. Yes.

Mr. WHITFIELD. And so were any of you surprised that the U.S. was that low out of the top 11 or 12 countries?

Mr. NADEL. We hadn't expected the U.S. to be quite as low when we began it, but we let the data fall where it will.

Mr. WHITFIELD. And why do you think we are that low?

Mr. NADEL. A couple of reasons. Compared—it is all relative to other countries. I would say most other countries have concentrated much more on energy efficiency than we have. You know, they have cabinet meetings on it. They have major national policies. As you and everybody else on the committee knows, we have had great difficulty reaching an agreement on an energy policy in the United States, and as a result, much less happens.

Mr. WHITFIELD. Yes, plus we focus on production, and efficiency probably is the easiest and best way to improve our situation.

Mr. NADEL. Right.

Mr. WHITFIELD. And as someone who doesn't know a lot about efficiency, I would like to ask you, Mr. Drees, you mentioned a project, I think that you all had in Puerto Rico.

Mr. DREES. That is right.

Mr. WHITFIELD. And you were talking about the astounding improvements that were made there. Could you just list a few things that you did there, practical things?

Mr. DREES. Some of the things we did, I mean, first of all, we installed pretty significant renewable solar array on the rooftops of many of the buildings in the Coast Guard. They get about 25 cents a kwh in Puerto Rico, so it made it very economically viable to put in solar. Also, lighting.

Mr. WHITFIELD. $0.25 per kilowatt hour?

Mr. DREES. Twenty-five cents per kilowatt hour, right. Across the U.S. the average is somewhere around 10 cents per kwh in comparison to 25.

Mr. WHITFIELD. Yes.

Mr. DREES. So along with that we had lighting and lighting control; also a big part of the mechanical retrofit around cooling. So for that particular site in many locations, cooling represented around 40 percent of the total energy consumption for that customer. So we redesigned, put in a central plant, and it completely reconfigured and paid for the saving, or paid for all that with the savings generated. So it was lighting, lighting control, solar, and a complete redesign of their central system for cooling.

Mr. WHITFIELD. I am assuming that at the DOE, the amount of money available for efficiency efforts would be minute compared to a lot of other funds that we have. Would that be correct?

Mr. DREES. That would be correct, but that is one—I think that is why we advocate ESPC so strongly, because there is no—there is no appropriated funds needed to really drive the project.

Mr. WHITFIELD. Right.

Mr. DREES. It is all leverage from non-appropriated funds.

Mr. WHITFIELD. All right, I haven't talked to anyone at DOE about Mr. Bass' legislation personally, but I have been told that they don't want to take a position on this bill. Have any of you had any conversations with anybody at DOE about this legislation?

Ms. CALLAHAN. We have had conversations about similar legislation, companion legislation in the Senate. And I think that it would be fair to say—I won't speak for the administration—but that the kinds of approaches that are in the bills are very much in line with what the administration has been pursuing. The administration is trying to bump up the use of ESPCs. The administration is trying to drive greater efficiency into its own building stock. Forming partnerships with the private sector is something they want to see. And I would say, too, that there isn't enough funding for the programs at DOE in our opinion. You could double it, and for every dollar that goes into DOE programs, it returns $17 or more in savings and sparks $10 or more in private-sector investment. So it is a very, very wise investment for our government.

Mr. WHITFIELD. We should have given you all the Solyndra money. But if—OK, so philosophically, from your conversations, you are not speaking for the administration, but philosophically, you feel they would be comfortable with this approach?

Ms. CALLAHAN. Very much so. And this approach, again, from the Senate side, I don't want to talk about that too much, but the vote in the Senate Energy Committee was 18–3 in favor of the bill.

Mr. WHITFIELD. OK.

Ms. CALLAHAN. So it has got wide bipartisan support there, and I only mention it because there is more of a track record than we have on Bass-Matheson over here.

Mr. WHITFIELD. Is there any one thing that if you could put it in the Bass bill that would just kind of jump out, a provision that you might put in to make it even better than it is? Can you think of anything offhand?

Mr. DREES. Well, I think it is about the priority, the prioritization of the ESPC language because right now, I think it is viewed as it is currently available. Why is it not being deployed, and if you look at some of the statistics around the ESPC program just in the last 3 years, there has only been 47 projects deployed. For us to meet the $2 billion initiative from better buildings, we need roughly 50 to 60 projects per year. So really making it a priority as the first few mentioned, making it a first priority to do energy-efficient projects with the ESPC really is, I think that is——

Mr. WHITFIELD. All right.

Ms. CALLAHAN. And Steve mentioned a couple of things that maybe I will just reemphasize here. One of the things that other countries and businesses have done that drive efficiency and would pull us up, they set targets and then they go about trying to meet those targets. In the Senate version of the bill, it establishes a process for setting national targets for building energy codes, so improving those codes over time. The residential and commercial stock uses 40 percent of the energy consumed in this country. So putting that in place, and it also gives not a lot of money, a very small amount of money, but it gives money to States to have them go out and adopt the current codes, and then enforce them and get compliance with the codes.

So if I had another add to and a wish list that would be my top priority.

Mr. WHITFIELD. OK, anybody else have any——

Mr. NADEL. I would agree with that.

In our analysis, the savings from all of these provisions, the building code provision had by far, the largest savings. We are a data-driven organization and when you have that much savings that is the top of our list.

Mr. WHITFIELD. OK.

OK, Mr. Olson, you are recognized for 5 minutes.

Mr. OLSON. I thank the chairman. A belated welcome to the third panel. We greatly appreciate your stamina, your persistence, your willpower, and I apologize for the votes.

And I was going to ask 30 minutes of questions, ask unanimous consent, but I will only stick with the 5 minutes allotted here.

My first question to you, Mr. Marrone. Your testimony shows that 5.5 million manufacturing jobs and thousands of manufacturing facilities have been lost since 2001. I am concerned by Exhibit C of your testimony, which shows almost no industrial combined heat power facilities have been built since 2005. Why aren't these facilities being built? You mentioned, you say the electricity market barriers. What are those barriers?

Mr. MARRONE. I think there is a combination of issues, but I would key on two. One is accessibility to the electricity markets and the fact that if you believe that there is discrimination about getting access, the onus is on the manufacturer to prove otherwise. And that is a very timely and costly process, and they are probably not going to take that route.

Another area of concern is the lack of long-term contracts. Without a long-term contract, there is a high financial risk that manufacturers do not want to take.

Mr. OLSON. These barriers, are they Federal Government barriers, market barriers.

Mr. MARRONE. I think they are market barriers through the Energy Policy Act of 2005 and perhaps other things that have taken place that make it very difficult.

Mr. OLSON. Anybody else want to comment on those issues?

Ms. Callahan?

Mr. NADEL. I can add something. A lot of it has to do with how utilities price power and provide access and what State regulators permit or do not permit. It is probably more a State issue than a Federal issue.

Mr. OLSON. Federal issue, OK. That is kind of what I suspect. And I am also intrigued, Mr. Chamberlin, by the University of New Hampshire. Congratulations on your cogeneration activities up there. Tell me, why did the university choose to invest in cogeneration technologies as a means for the campus' energy needs?

Mr. CHAMBERLIN. It was a combination of the right time. We had a very aging boiler plant. It was a single-purpose plant. That plant used, converted about 80 percent of the fuel energy into usable thermal energy for heating the campus. But we were importing all of our electricity, and when we ran the numbers rather than investing in that 50-year-old technology, we ran the numbers and we realized that we could increase the efficiency with which the total

fuel energy, in other words, the fuel that the power plants were also using in their single-purpose plants, which was converting roughly 35 percent of the fuel energy to electricity, we could substitute our own system, and we could achieve about an 80 to 85 percent efficiency in converting fuel energy to usable energy to meet campus needs. So much more efficient. We also gained a significant reduction in emissions pollutants. We reduced our greenhouse gas emissions. And at least in the 2011 data that we have looked at, it saved us about $3 million.

Mr. OLSON. Are there any untoward burdens that we need to address so that other companies, other universities can use your example and follow that?

Mr. CHAMBERLIN. I think there are two things that I would offer to the committee to consider, at least in our experience. We found that for Clean Air Act enforcement and for air permitting, the regulators are restrained to look only at your site. So we were lucky because we already had a major power plant and as part of our conversion, we were switching from using heavy oil, with number 6 oil, which is one step up from road tar, to natural gas. So that actually lead us, was a big contributor in letting us lower our total emissions. But if I were an industrial site and wanted to install cogeneration, and I knew that I was going to reduce the load on the grid because I was going to make my own power, the regulators have to look only at my site. And I am going to be increasing the emissions from my site. And yet they can't look at the regional benefits. So I think that is an issue that needs some consideration because it could be, potentially become a barrier to someone who wanted to move forward with cogeneration.

Mr. OLSON. See up here in Washington, when you stay in the real world sometimes, not just focused on one microcosm of the real world.

And my last question, Mr. Drees, I am not too familiar with the ISO 50001, so tell me how this works. What is the advantage of adopting that?

Mr. DREES. So ISO 50001, if you think about, you know, the manufacturing environment how quality really needed a standard just 25 years ago, there really wasn't a sense of, you know, how do you drive quality? How is there a standard process? So ISO 9001 was born, and hence, now you can come into any facility that is ISO 9001 certified and you know the quality standards that that location adheres to. ISO 50001, we are saying there needs to be the same audible path for energy management to say it is about how many BTUs, how many energy consumption per square foot is this facility. If you have a corporate sustainability report, how are you tied back all the way to the utility bill that shows that you are actually reducing the energy footprint of that site. ISO 50001 puts audible measurements in place for any facility just like ISO 9001 for quality. So it is applying the same kind of rigor the manufacturing environment is used to for quality. Let's apply that for the energy efficiency standard.

Mr. OLSON. Thank you, Mr. Chairman.

I am out of time and to use in our Navy term, you can at your convenience, let the panels, clear them to go ashore.

Mr. WHITFIELD. Thank you, Mr. Olson.

As you all know, Mr. Bass introduced the legislation that we are discussing today, and we have as a matter of policy that the person that introduces the legislation has to go last. And so when you have a 6-hour hearing, that is how you determine how committed they are to their bill.

And now we recognize Mr. Bass.

Mr. BASS. Mr. Chairman, thank you, and I have had more fun with dealing with the Solyndra debate.

I have been waiting for weeks for this hearing.

I want to thank you, again, for giving me special dispensation here to participate in this hearing and ask a few questions.

First of all, and I don't want to lead these witnesses too much, can either you, Mr. Chamberlin, or Mr. Marrone, give us, or any of you, give us an idea as to exactly what the savings are through the utilization of combined heat and power? I will lead you a little bit. Electricity generation, what percent efficiency? Thermal generation, what percent efficiency? Combined heat and power, what percent efficiency? And what, if any, are the savings in terms of big macro numbers that this Nation could see if we were to increase cogeneration significantly?

Mr. MARRONE. I can't give you exact numbers, the reason being is that I said we have 260 facilities in North America and Canada, and I would say certainly in our energy-intense facilities, about 50 percent of them have some form, either in the drawing board, or being implemented, or fully implemented. I can tell you that in energy efficiency, on a spend about $400 million a year, we are easily saving $10 million to $13 million a year, so it is a significant number.

Mr. BASS. Mr. Chamberlin.

Mr. CHAMBERLIN. Our experience, well, the efficiency issue, standard electric, single-purpose electric plant converts about 35 percent. A heat, a standard boiler plant, roughly 80 percent. For a typical installation like the university, where you are producing your own heat, you are buying electricity, then that nets out at about 50 percent of the fuel energy is converted into usable forms. So there is a huge increase over that 35 percent. I am sorry, if you go to cogen, you can get to 85 percent. So there is a huge increase in the efficiency of the fuel conversion, and so in terms of national impact, the more of that we can do, clearly, the better off. The available energy sources are going to go further.

Mr. BASS. Roughly 35 percent, 50 percent thermal, about 85 percent total, so the savings are gigantic.

Mr. Drees, what in your opinion is the biggest barrier to the use of energy savings performance contracts in the Federal Government?

Mr. DREES. I think the first thing I would say is probably just knowledge. It is a different way of doing business. It is not like your traditional, hire an architect, hire a consulting engineer, go through the normal construction chains, so it is a very different process, because it uses design-build energy performance criteria to justify the project. So it is a very different way of doing projects. So I think one of the gaps we have is how we educate the agencies on exactly how this process works.

Right now that is one of the things that we really should push is just shorten the amount of time. You know, we can get to 60 projects a year. We have to shorten the amount of time the companies get selected, shorten the amount of time the audits take place so you can actually get it to contract.

Mr. BASS. How do you think the bill would help?

Mr. DREES. How would the bill help?

Mr. BASS. Yes, how would the bill help to overcome these barriers?

Mr. DREES. Today, status quo doesn't work.

Mr. BASS. Why not?

Mr. DREES. I talked about current state of only 47 projects over 3 years, and $800 million worth of projects, and we know that there is roughly $1 billion in savings potential in the Federal Government. If it is a priority and it makes it as the first method of reducing energy efficiency, we now know the agencies have to rely on that and it is going to drive some innovation. It is going to shorten the cycle time to do these projects. So by putting it as the priority, we know it will drive the numbers that we are talking about.

Ms. CALLAHAN. I can put it in a simpler, maybe, way. It takes the risk out of it for the agency managers. I mean, I think that is a lot of it. It is an education, and it is a risk.

Mr. DREES. Right.

Ms. CALLAHAN. They are not going to be paid any more if they do an ESPC. There is a risk involved in it. And if the Congress is directing them to use this as a priority, it removes the risk and we think will open up the flow of projects.

Mr. BASS. Last question for Mr. Marrone. How do you think the combined heat and power can benefit this domestic economy and create jobs?

Mr. MARRONE. Well, anything you can do to create efficiency, you know, in particular, energy, it is going to put more working capital to other projects. It is going to reduce—increase our savings. We are going to hire jobs. We are going to increase profitability. We are going to increase sales. We are going to increase the economy. Anything in light of CHP or anything else close to that, any energy efficiency initiatives will only serve to improve reliability to the grid. It will serve to create jobs, and stimulate the economy.

Mr. BASS. And lastly, Mr. Marrone, and briefly, can you elaborate on why industrial energy efficiency from a cost management perspective is critical to our Nation's manufacturing process?

Mr. MARRONE. I guess maybe a simple way of saying, I look at energy efficiency as I look at safety. I think we have to look at a cultural transformation. As businesses and organizations look at safety in the workplace for their employees and their factories, we have to think in the same light and maintain the same mentality when it comes to energy.

Mr. BASS. OK, thank you very much.

And Mr. Chairman, one last little request. I have here letters of support from the American Chemistry Council, the National Association of Manufacturers and the National Electrical Contractors Association. I would ask unanimous consent that these be entered

into the record. And I thank the chairman for his time and his indulgence.

[The information follows:]

STATEMENT FOR RECORD

Submitted to the House Energy and Commerce Subcommittee on Energy and Power and Subcommittee on Oversight and Investigations

"The Smart Energy Act"

On behalf of

The American Chemistry Council

July 12, 2012

The American Chemistry Council commends the House Energy and Commerce Subcommittee on Energy and Power and Subcommittee on Oversight and Investigations for holding a hearing on the "Smart Energy Act" and urges the House of Representatives to swiftly pass this sensible, bipartisan and much needed legislation to make the nation more energy efficient. We also wish to thank Representatives Bass and Matheson for co-authoring this important legislation.

The American Chemistry Council (ACC) represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. ACC is committed to improved environmental, health and safety performance through Responsible Care®, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing. The business of chemistry is a $760 billion enterprise and a key element of the nation's economy. It is one of the nation's largest exporters, accounting for ten cents out of every dollar in U.S. exports. Chemistry companies are among the largest investors in research and development. Safety and security have always been primary concerns of ACC members, and they have intensified their efforts, working closely with government agencies to improve security and to defend against any threat to the nation's critical infrastructure.

ACC believes that energy efficiency is one of the easiest and most cost-effective ways to achieve energy and cost savings in the residential, commercial and industrial sectors, yet energy efficiency rarely gets its due. Encouraging the use of energy efficient technologies in the industrial, commercial and residential sectors will lead to significant energy savings and should be part of a comprehensive national energy strategy.

The products of chemistry empower our nation's efforts to save energy. We create the materials and technologies that make energy efficiency possible, including lithium-ion batteries, composites for more

fuel-efficient cars, lightweight plastic packaging that reduce energy needs in shipping and transportation, and insulations, roofing, windows, and piping that improve efficiency in buildings. The products of chemistry help save up to 11 quadrillion BTUs of energy annually, enough to power, heat and cool up to 56 million households, or run up to 135 million vehicles each year. Chemistry also is the source of many innovative technologies that drive cleaner energy options, create green jobs and propel U.S. economic growth.

American Chemistry is an energy-intensive industry. Last year, the industry spent $80 billion on energy inputs. We know from long experience that becoming more energy efficient in our operations is critical to competing successfully in the global economy. The Smart Energy Act will help our industry become more competitive by identifying specific regulatory barriers to greater investment in industrial energy efficiency, coordinating research and development of new industrial efficiency technologies, and developing a strategic plan to double the nation's production from high-efficiency combined heat and power technologies.

America's chemistry industry is undergoing a renaissance. Expanded supplies of natural gas from shale have given our industry the confidence to invest in the United States. It's a huge change from just a few years ago, when U.S. natural gas prices were among the highest in the world and our industry was at a significant competitive disadvantage. To ensure that the United States remains a good place to do business, Americans must use our energy supplies wisely. That's one of the reasons that energy efficiency must have a prominent place in our nation's energy policy.

While ACC supports the Smart Energy Act in general, our focus is on Title II, "Providing Opportunities for Energy Efficiency in Business and Industry." Title II contains several important provisions to advance industrial energy efficiency.

Section 201 will develop the definitive study on barriers to the deployment of industrial energy efficiency and make recommendations on reducing those regulatory barriers. Industry-hosted combined heat and power and waste heat recovery units are dramatically underutilized in the US. Today, the US produces barely 9 percent of its power from these highly efficient CHP/WHR units. Denmark, in stark contrast, produces 50 percent of its power from CHP units. In many states, a host of state utility regulatory barriers, including interconnection standards, standby fees and exit fees make it uneconomic for industrial facilities to build and operate on site CHP facilities that are designed to sell surplus power production to the grid. The report will catalogue those barriers to industrial energy efficiency and, conversely, identify policies that have resulted in greater use of CHP technology. Section 201 will arm policymakers with the information they need to know to make policy decisions that will lead to new investments in industrial efficiency.

Section 202 will improve government coordination of research and development of energy efficient technologies for industries. This is an important provision because it integrates R&D activities across a

range of U.S. Department of Energy (DOE) offices and leverages the expertise of multiple DOE programs to promote early stage EE technology development. This strategy has great potential to help launch new technologies and manufacturing processes to improve efficiency, reduce emissions and waste and improve the competitiveness of American industries.

Section 203 establishes a national goal to double the production of electricity from combined heat and power and waste heat recovery and directs the federal government to develop a strategic plan to achieve the goal. A 2008 report from Oak Ridge National Laboratories showed how it was possible for the nation to double power output from CHP technologies. By setting the goal, developing a plan, and identifying policy proposals, The Smart Energy Act will place a national spotlight on underutilized technologies that have the potential to dramatically improve the efficiency and competitiveness of American industry.

The Smart Energy Act lays the groundwork for making energy efficiency a central feature of a new national energy policy. It will identify barriers and recommend solutions to spur new investments in industrial energy efficiency, investments that can create new jobs while making US industry more competitive in the global market. As an industry that competes in international markets on a daily basis, American Chemistry urges Congress to pass the Smart Energy Act.

Ross E. Eisenberg
Vice President
Energy & Resources Policy

July 12, 2012

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Bobby L. Rush
Ranking Member
Subcommittee on Energy and Power
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Cliff Stearns
Chairman
Subcommittee on Oversight & Investigations
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Diana DeGette
Ranking Member
Subcommittee on Oversight & Investigations
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairmen Whitfield and Stearns and Ranking Members Rush and DeGette:

The National Association of Manufacturers (NAM), the largest industrial trade association in the U.S., representing over 13,000 small, medium and large manufacturers in all 50 states, supports the discussion draft of the "Smart Energy Act." The NAM applauds the Subcommittees on Energy and Power and Oversight and Investigations for holding a joint hearing to discuss the draft bill, and for recognizing the important role energy efficiency can play in reducing our energy consumption and costs, and creating jobs.

Manufacturers use one-third of our nation's energy and are directly affected by the cost of energy both in making products and maintaining office operations. Process and building system energy efficiency and conservation offer immediate and cost-effective opportunities to reduce energy cost inputs and stretch available energy supplies. Despite widespread acceptance of the benefits of industrial, commercial and residential energy efficiency, barriers do still exist. The Smart Energy Act would help remove several of those barriers.

The centerpiece of this bill is a provision that directs federal agencies to use Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs) to meet federal energy management requirements. ESPCs and UESCs are critical tools to enabling Federal agencies to meet statutorily-mandated energy reduction goals at no upfront cost to taxpayers. They also create jobs: Oak Ridge National Laboratory estimates that simply carrying out the existing $80 billion already directed to the ESPC program could create more than 40,000 new jobs annually for a decade.

The Smart Energy Act also provides opportunities for energy efficiency in business and industry by establishing partnerships to coordinate research and development of energy

efficiency technologies and processes, promoting increased usage of combined heat and power and waste heat recovery, and requiring an analysis of existing barriers to deployment of industrial energy efficiency.

Manufacturers play a significant role in improving energy efficiency across all sectors. Manufacturers create many of the products and processes that will make our businesses, vehicles and homes more efficient, and manufacturers themselves have achieved greater energy efficiency through cost-effective distributed generation, combined heat and power technologies, waste heat recovery systems, water reuse and recycling, intelligent energy systems like advanced metering infrastructure and demand response. Greater product implementation means job growth in manufacturing, and expanded use of technologies that reduce energy demand improves our nation's energy security. It is truly a win-win scenario.

The NAM supports the discussion draft of the Smart Energy Act and stands ready to work with you and your staffs to advance this important legislation.

Sincerely,

Ross Eisenberg
Vice President
Energy and Resources Policy

Cc: Members of the Subcommittees on Energy and Power and Oversight and Investigations

Statement of the

National Electrical Contractors Association

to the

Subcommittee on Energy and Power

and

Subcommittee on Oversight and Investigations

Joint Legislative Hearing

Committee on Energy and Commerce

U.S. House of Representatives

For a hearing on

"The American Energy Initiative"

July 12, 2012

NECA
NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION

NECA is the voice of the $130 billion electrical construction industry that brings power, light, and communication technology to buildings and communities across the U.S. NECA's national office and 119 local chapters advance the industry through advocacy, education, research and standards development.

NATIONAL ELECTICAL CONTRACTORS ASSOCATION
3 Bethesda Metro Center, Suite 1100 • Bethesda, MD 20814 • Phone: (301) 657-3110 • FAX: (301) 215-4500

Statement of the National Electrical Contractors Association (NECA)
Subcommittee on Energy and Power
and
Subcommittee on Oversight and Investigations
Joint Legislative Hearing
July 12, 2012

The National Electrical Contractors Association (NECA) appreciates the opportunity to submit a statement for the record to the Subcommittees on Energy and Power and Oversight and Investigations of the House Energy and Commerce Committee's joint legislative hearing to consider the "Smart Energy Act," introduced by Reps. Charles Bass (R-N.H.) and Jim Matheson (D-Utah). NECA commends the Committee for having scheduled this important joint hearing to address the important role of energy efficiency and job creation.

NECA is the nationally recognized voice of the electrical construction industry, comprised of over 80,000 electrical contracting firms, employing over 750,000 electrical workers and producing an annual volume of over $125 billion in electrical construction. NECA includes 120 U.S. chapters in addition to several affiliated international chapters around the world.

In today's global economy, widespread adoption of energy efficient technologies has been slow due to economical, governmental, and marketplace barriers. American manufacturing must be as productive and efficient as possible to ensure our economic competitiveness and grow our economy. The "Smart Energy Act" is a bipartisan approach to reducing the electricity costs of the federal government, while making considerable strides in addressing job creation. This is an especially important issue to help the electrical construction industry. According to the Bureau of Labor Statistics, unemployment in the construction industry overall is still hovering at 13 percent, nearly one and a half times the national unemployment rate.

NECA supports Sections 101 (c) and (d) of the underlying bill. We encourage you to urge the Department of Energy, in the House Report that will accompany this bill, to ensure that the construction of electric vehicle charging infrastructure projects is performed by highly skilled electrical contractors.

NECA also strongly supports Section 203, which would establish a national goal of doubling the production of electricity from combined heat and power (CHP) and waste heat recovery (WHR) by 2020. NECA is confident that this new policy initiative will help to enhance the energy savings from the industrial sector and spur investments in manufacturing industries. Most importantly, it would create and maintain thousands of jobs within those industries as well as in the manufacturing, installing, and operating of combined heat and power equipment.

NECA appreciates the opportunity to submit this statement for the record in conjunction with this joint hearing and applauds the Committee's unwavering efforts to promote energy efficiency incentives. We continue to offer our support in helping to advance this important bill and look forward to working with Committee on this important bill.

Mr. WHITFIELD. Without objection.

Well, thanks for staying with us. We appreciate it, and with that, we will conclude today's hearing. Once again, thank you very much for your time, your commitment. I do apologize it took so long, but all of your testimony has been read. We have it in the record, and we look forward to working with you as we take steps to try to improve this Nation's efficiency.

And the record will remain open for 10 days for any additional material. So that concludes today's hearing. Thank you.

[Whereupon, at 2:56 p.m., the subcommittees were adjourned.]

[Material submitted for inclusion in the record follows:]

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[DISCUSSION DRAFT]

JULY 3, 2012

112TH CONGRESS
2D SESSION

H. R. _____

To limit further taxpayer exposure from the loan guarantee program established under title XVII of the Energy Policy Act of 2005.

IN THE HOUSE OF REPRESENTATIVES

Mr. UPTON (for himself and Mr. STEARNS) introduced the following bill; which was referred to the Committee on _____

A BILL

To limit further taxpayer exposure from the loan guarantee program established under title XVII of the Energy Policy Act of 2005.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "No More Solyndras Act".

SEC. 2. FINDINGS.

The Congress makes the following findings:

(1) President Obama took office amidst a weak economy and high unemployment, yet he remained committed to advancing an expansive "green jobs" agenda that received substantial funding with the passage of the American Recovery and Reinvestment Act of 2009, commonly known as the stimulus package.

(2) The stimulus package allocated $90 billion to various green energy programs, and related appropriations provided $47 billion for loan guarantees authorized under title XVII of the Energy Policy Act of 2005 (42 U.S.C. 16511 et seq.).

(3) Such title XVII authorized the Secretary of Energy to issue loan guarantees for projects that avoid, reduce, or sequester air pollutants or greenhouse gases and employ new or significantly improved technologies compared with commercial technologies in service at the time the guarantee is issued.

(4) Loan guarantees issued under such title XVII were required to provide a reasonable prospect of repayment and were expressly required to be subject to the condition that the obligation is not subordinate to other financing.

(5) The stimulus package expanded such title XVII by adding section 1705 to include projects that use commercial technology for renewable energy systems, electric power transmission systems, and leading-edge biofuels projects and by appropriating $6,000,000,000 in funding to pay the credit subsidy costs for section 1705 loan guarantees for projects that commence construction no later than September 30, 2011.

(6) The Department of Energy, since the enactment of the stimulus package, has issued loan guarantees under such title XVII for 28 projects totaling $15,100,000,000 under the section 1705 program, and issued conditional loan guarantees for four projects totaling $10,600,000,000 under the section 1703 program.

(7) Two of the first three companies that received section 1705 loan guarantees for their projects, Solyndra, Inc. and Beacon Power Corporation, have declared bankruptcy.

(8) The bankruptcy of the first section 1705 loan guarantee recipient, Solyndra, Inc., could result in a loss to taxpayers of over $530,000,000.

(9) The investigation of the Solyndra loan guarantee by the Committee on Energy and Commerce

has demonstrated that the review in 2009 of the Solyndra application by the Department of Energy and the Office of Management and Budget was driven by politics and ideology and divorced from economic reality where the Department of Energy ignored concerns about the company's financial condition and market for its products.

(10) Despite an express provision in such title XVII prohibiting subordination of the United States taxpayers' financial interest, the Department of Energy restructured the Solyndra loan guarantee in February 2011, resulting in the taxpayers losing priority to Solyndra's investors in the event of a default.

(11) The Inspector General of the Department of the Treasury concluded that it was unclear whether the Department of Energy's consultation requirement with the Secretary of the Treasury on the Solyndra loan guarantee was met; that the consultation that did occur was rushed with the Department of Treasury expressing that "the train really has left the station on this deal"; and that no documentation was retained as to how the Department of Treasury's serious concerns with the loan guarantee were addressed.

(12) The Government Accountability Office concluded that the Department of Energy Loan Guarantee Program under title XVII has treated applicants inconsistently; that the Department of Energy did not follow its own process for reviewing applications and documenting its analysis and decisions, increasing the likelihood of taxpayer exposure to financial risk from a default; and that the Department of Energy's absence of adequate documentation made it difficult for the Department to defend its decisions on loan guarantees as sound and fair.

(13) A memorandum prepared for the President dated October 25, 2010, from Carol Browner, Ron Klain, and Larry Summers, principal advisors to the President, noted the risk presented by loan guarantee projects because most of the projects had little "skin in the game" from private investors.

(14) A January 2012 report conducted at the request of the Chief of Staff to the President concluded that the portfolio of projects the Department of Energy included in the loan program were higher risk investments that private capital markets do not generally invest in.

(15) The Department of Energy's section 1705 program has expired but the Department of Energy

has announced that it will continue to consider applications for loan guarantees under the section 1703 program.

(16) The Department of Energy has approximately $34,000,000,000 in remaining lending authority to issue new loan guarantees under the section 1703 program.

SEC. 3. SUNSET.

(a) NO NEW APPLICATIONS.—The Secretary of Energy shall not issue any new loan guarantee pursuant to title XVII of the Energy Policy Act of 2005 (42 U.S.C. 16511 et seq.) for any application submitted to the Department of Energy after December 31, 2011.

(b) PENDING APPLICATIONS.—With respect to any application submitted pursuant to section 1703 or 1705 of the Energy Policy Act of 2005 before December 31, 2011:

(1) No guarantee shall be made until the Secretary of the Treasury has reviewed the proposed guarantee and made a written recommendation to the Secretary of Energy on the merits of the guarantee.

(2) The Secretary of the Treasury shall transmit the written recommendation required under paragraph (1) to the Secretary of Energy not later

than 30 days after receiving the proposal from the Secretary of Energy.

(3) Before making a guarantee under such title XVII, the Secretary of Energy shall take into consideration the written recommendation made by the Secretary of the Treasury under paragraph (1).

(4) If the Secretary of Energy makes a guarantee that does not conform to the written recommendation made by the Secretary of the Treasury under paragraph (1), not later than 30 days after making such guarantee the Secretary of Energy shall transmit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a written explanation of the Secretary's reasons for deviating from the Secretary of the Treasury's recommendation.

(c) TRANSPARENCY.—

(1) REPORTS TO CONGRESS.—Not later than 60 days after making a guarantee as provided in subsection (b), the Secretary of Energy shall transmit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report that includes information regarding—

(A) the review and decisionmaking process utilized by the Secretary in making the guarantee;

(B) the terms of the guarantee;

(C) the recipient; and

(D) the technology and project for which the loan guarantee will be used.

(2) PROTECTING CONFIDENTIAL BUSINESS INFORMATION.—A report under paragraph (1) shall provide all relevant information, but the Secretary shall take all necessary steps to protect confidential business information with respect to the recipient of the loan guarantee and the technology used.

SEC. 4. RESTRUCTURING OF LOAN GUARANTEES.

With respect to any restructuring of the terms of a loan guarantee issued pursuant to title XVII of the Energy Policy Act of 2005, the Secretary of Energy—

(1) shall consult with the Secretary of the Treasury regarding any restructuring of the terms and conditions of the loan guarantee, including any deviations from the financial terms of the loan guarantee; and

(2) shall not subordinate the interests of the United States Government to any other financing for the project.

[DISCUSSION DRAFT]

112TH CONGRESS
2D SESSION

H. R. _____

To promote efficient energy use in the Federal and private sectors, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Mr. BASS of New Hampshire introduced the following bill; which was referred to the Committee on _____

A BILL

To promote efficient energy use in the Federal and private sectors, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Smart Energy Act".

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

TITLE I—FEDERAL ENERGY USE AND GENERATION

SEC. 101. UTILIZING ENERGY SAVINGS PERFORMANCE CONTRACTS AND UTILITY ENERGY SERVICE CONTRACTS.

(a) IMPLEMENTATION OF ENERGY MANAGEMENT REQUIREMENTS.—Section 543 of the National Energy Conservation Policy Act (42 U.S.C. 8253) is amended—

(1) by redesignating the second subsection (f) as subsection (g); and

(2) in subsection (f)(10)—

(A) in subparagraph (B)(i), by striking "To carry" and inserting "To the extent consistent with subparagraph (C), to carry";

(B) in subparagraph (B)(ii), by striking "A Federal" and inserting "To the extent consistent with subparagraph (C), a Federal"; and

(C) by amending subparagraph (C) to read as follows:

"(C) IMPLEMENTATION.—

"(i) GENERAL RULE.—Except as provided in clause (i) or (ii) of this subparagraph, each Federal agency shall implement the requirements under this subsection through private financing described in subparagraph (B)(i)(II).

"(ii) EXCEPTION.—A Federal agency may implement the requirements under this subsection using appropriated funds described in subparagraph (B)(i)(I) if implementation pursuant to clause (i) of this subparagraph conflicts with the primary mission of the agency or facility, or if greater cost savings can be generated under a different program. A Federal agency shall provide a written justification for any decision to implement such requirements under this clause, including an analysis of the impact of such decision on the taxpayer.

"(iii) FEDERAL ADMINISTRATIVE COSTS.—A Federal agency may implement

the requirements under this subsection using appropriated funds described in subparagraph (B)(i)(I) to the extent necessary to cover Federal administrative costs with respect to implementation pursuant to clause (i) of this subparagraph.".

(b) TERMINATION CLAUSES.—Section 801(b)(2) of the National Energy Conservation Policy Act (42 U.S.C. 8287(b)(2)) is amended—

(1) by striking "and" at the end of subparagraph (B);

(2) by striking the period at the end of subparagraph (C)(iv) and inserting "; and"; and

(3) by adding at the end the following new subparagraph:

"(D) require each agency to include in contracts appropriate termination clauses for facilities that will or may close before the end of the term of the contract.".

(c) ESPCS FOR ELECTRIC VEHICLES AND FUELING INFRASTRUCTURE.—Section 804 of the National Energy Conservation Policy Act (42 U.S.C. 8287c) is amended—

(1) by striking "or" at the end of subparagraph (A);

(2) by striking the period at the end of subparagraph (B) and inserting "; or"; and

(3) by adding at the end the following new subparagraph:

"(C) a measure to support the use of electric vehicles or the fueling or charging infrastructure necessary for electric vehicles.".

(d) UESCs FOR ELECTRIC VEHICLES AND FUELING INFRASTRUCTURE.—Section 546 of the National Energy Conservation Policy Act (42 U.S.C. 8256) is amended in subsection (c)(1) by inserting ", including measures taken to finance the acquisition or use of electric-powered vehicles or their fueling infrastructure," after "demand".

SEC. 102. DEMAND RESPONSE PROGRAMS.

Section 543 of the National Energy Conservation Policy Act (42 U.S.C. 8253) is amended by adding at the end thereof the following new subsection:

"(h) DEMAND RESPONSE PROGRAMS.—

"(1) DEFINITION OF FEDERAL AGENCY.—In this subsection, the term 'Federal agency' does not include any Federal power marketing administration.

"(2) REQUIREMENTS.—To carry out this section, a Federal agency shall, as necessary in order to support electric grid reliability and security or re-

duce energy bills for the agency or facility, participate in demand response programs, where such programs are available, to the extent the agency determines participation in such programs would be beneficial to the agency and where such participation would not conflict with the primary mission of the agency or facility, provided that such participation does not shift costs from the agency to non-Federal agency electric energy customers.".

SEC. 103. FEDERAL DATA CENTER CONSOLIDATION.

(a) DEFINITION.—In this section, the term "Federal data center" means a room or space in a Federal building that is used for housing computer servers, data storage devices, or network equipment, including server closets.

(b) OMB REQUIREMENTS.—The Director of the Office of Management and Budget shall direct the Federal Chief Information Officer to—

(1) require that agencies, when updating their Federal data center inventories in the third quarter of each fiscal year, state what actions have been taken to verify the inventories and to identify any limitations of this information;

(2) require that agencies complete the missing elements in their respective plans and submit complete Federal data center consolidation plans, or pro-

vide a schedule for when they will do so, not later than 180 days after the date of enactment of this Act;

(3) require agencies to consider consolidation challenges and lessons learned when updating their consolidation plans; and

(4) utilize the existing accountability infrastructure by requiring the Data Center Consolidation Task Force to assess agency consolidation plans to ensure they are complete and to monitor the agencies' implementation of their plans.

(c) DEPARTMENT AND AGENCY REQUIREMENTS.—Each of the department secretaries and agency heads of the 23 departments and agencies participating in the Office of Management and Budget's Federal data center consolidation initiative shall—

(1) direct their component agencies and their Federal data center consolidation program managers to complete the missing elements in their respective Federal data center consolidation inventories and plans; and

(2) require their Federal data center consolidation program managers to consider consolidation challenges and lessons learned when updating their consolidation plans.

SEC. 104. ADOPTION OF PERSONAL COMPUTER POWER SAVINGS TECHNIQUES BY FEDERAL AGENCIES.

(a) IN GENERAL.—Not later than 360 days after the date of enactment of this Act, the Secretary of Energy, in consultation with the Secretary of Defense, the Secretary of Veterans Affairs, and the Administrator of General Services, shall issue guidance for Federal agencies to employ advanced tools allowing energy savings through the use of computer hardware, energy efficiency software, and power management tools.

(b) REPORTS ON PLANS AND SAVINGS.—Not later than 180 days after the date of the issuance of the guidance under subsection (a), each Federal agency shall submit to the Secretary of Energy a report that describes—

(1) the plan of the agency for implementing the guidance within the agency; and

(2) estimated energy and financial savings from employing the tools described in subsection (a).

SEC. 105. BEST PRACTICES FOR ADVANCED METERING.

Section 543(e) of the National Energy Conservation Policy Act (42 U.S.C. 8253(e)) is amended by striking paragraph (3) and inserting the following:

"(3) PLAN.—

"(A) IN GENERAL.—Not later than 180 days after the date on which guidelines are es-

tablished under paragraph (2), in a report submitted by the agency under section 548(a), each agency shall submit to the Secretary a plan describing the manner in which the agency will implement the requirements of paragraph (1), including—

"(i) how the agency will designate personnel primarily responsible for achieving the requirements; and

"(ii) a demonstration by the agency, complete with documentation, of any finding that advanced meters or advanced metering devices (as those terms are used in paragraph (1)), are not practicable.

"(B) UPDATES.—Reports submitted under subparagraph (A) shall be updated annually.

"(4) BEST PRACTICES REPORT.—

"(A) IN GENERAL.—Not later than 180 days after the date of enactment of the Smart Energy Act, the Secretary of Energy, in consultation with the Secretary of Defense and the Administrator of General Services, shall develop, and issue a report on, best practices for the use of advanced metering of energy use in

Federal facilities, buildings, and equipment by Federal agencies.

"(B) UPDATING.—The report described under subparagraph (A) shall be updated annually.

"(C) COMPONENTS.—The report shall include, at a minimum—

"(i) summaries and analysis of the reports by agencies under paragraph (3);

"(ii) recommendations on standard requirements or guidelines for automated energy management systems, including—

"(I) potential common communications standards to allow data sharing and reporting;

"(II) means of facilitating continuous commissioning of buildings and evidence-based maintenance of buildings and building systems; and

"(III) standards for sufficient levels of security and protection against cyber threats to ensure systems cannot be controlled by unauthorized persons; and

"(iii) an analysis of—

"(I) the types of advanced metering and monitoring systems being piloted, tested, or installed in Federal buildings; and

"(II) existing techniques used within the private sector or other non-Federal government buildings.".

SEC. 106. FEDERAL ENERGY MANAGEMENT AND DATA COLLECTION STANDARD.

Section 543(f)(7) of the National Energy Conservation Policy Act (42 U.S.C. 8253(f)(7)) is amended by striking subparagraph (A) and inserting the following:

"(A) IN GENERAL.—For each facility that meets the criteria established by the Secretary under paragraph (2)(B), the energy manager shall use the web-based tracking system under subparagraph (B)—

"(i) to certify compliance with the requirements for—

"(I) energy and water evaluations under paragraph (3);

"(II) implementation of identified energy and water measures under paragraph (4); and

"(III) follow-up on implemented measures under paragraph (5); and

"(ii) to publish energy and water consumption data on an individual facility basis.".

TITLE II—PROVIDING OPPORTUNITIES FOR ENERGY EFFICIENCY IN BUSINESS AND INDUSTRY

SEC. 201. REDUCING BARRIERS TO THE DEPLOYMENT OF INDUSTRIAL ENERGY EFFICIENCY.

(a) REPORT ON THE DEPLOYMENT OF INDUSTRIAL ENERGY EFFICIENCY.—

(1) IN GENERAL.—Not later than one year after the date of enactment of this Act, the Secretary shall submit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report containing—

(A) the results of the study conducted under paragraph (2); and

(B) recommendations and guidance developed under paragraph (3).

(2) STUDY.—The Secretary, in coordination with the industrial sector, shall conduct a study of the following:

(A) The legal, regulatory, and economic barriers to the deployment of industrial energy efficiency in all electricity markets (including organized wholesale electricity markets and regulated electricity markets), including, as applicable, the following:

(i) Transmission and distribution interconnection requirements.

(ii) Standby, back-up, and maintenance fees (including demand ratchets).

(iii) Exit fees.

(iv) Life of contract demand ratchets.

(v) Net metering.

(vi) Calculation of avoided cost rates.

(vii) Power purchase agreements.

(viii) Energy market structures.

(ix) Capacity market structures.

(x) Other barriers as may be identified by the Secretary, in coordination with the industrial sector.

(B) Examples of—

(i) successful State and Federal policies that resulted in greater use of industrial energy efficiency; and

(ii) cost-effective policies used by foreign countries to foster industrial energy efficiency.

(C) The estimated economic benefits to the national economy of providing the industrial sector with energy efficiency matching grants of $5 billion per year for 5- and 10-year periods, including benefits related to estimated energy and emission reductions, direct and indirect jobs saved or created, direct and indirect capital investment, the gross domestic product, and trade balance impacts.

(3) RECOMMENDATIONS AND GUIDANCE.—The Secretary, in coordination with the industrial sector, shall develop policy recommendations regarding the deployment of industrial energy efficiency, including proposed regulatory guidance to States and relevant Federal agencies to address barriers to such deployment.

(b) DEFINITIONS.—In this section:

(1) INDUSTRIAL SECTOR.—The term "industrial sector" means any subsector of the manufac-

turing sector (as defined in North American Industry Classification System codes 31–33) establishments of which have, or could have, thermal host facilities with electricity requirements met in whole, or in part, by onsite electricity generation, including direct and indirect combined heat and power or waste heat recovery.

(2) INDUSTRIAL ENERGY EFFICIENCY.—The term "industrial energy efficiency" means commercial technologies and measures to improve energy efficiency or to generate or transmit electric power and heat, including electric motor efficiency improvements, demand response, direct or indirect combined heat and power, and waste heat recovery.

(3) SECRETARY.—The term "Secretary" means the Secretary of Energy.

SEC. 202. COORDINATION OF RESEARCH AND DEVELOPMENT OF ENERGY EFFICIENT TECHNOLOGIES FOR INDUSTRY.

(a) IN GENERAL.—As part of the research and development activities of the Advanced Manufacturing Office of the Department of Energy, the Secretary of Energy shall establish, as appropriate, collaborative research and development partnerships with other programs within the Office of Energy Efficiency and Renewable Energy (in-

cluding the Building Technologies Program), the Office of Electricity Delivery and Energy Reliability, and the Office of Science that—

(1) leverage the research and development expertise of those programs to promote early stage energy efficiency technology development;

(2) support the use of innovative manufacturing processes and applied research for development, demonstration, and commercialization of new technologies and processes to improve efficiency, reduce emissions, reduce industrial waste, and improve industrial cost-competitiveness; and

(3) apply the knowledge and expertise of the Advanced Manufacturing Office to help achieve the program goals of the other programs.

(b) REPORTS.—Not later than 2 years after the date of enactment of this Act and biennially thereafter, the Secretary of Energy shall submit to Congress a report that describes actions taken to carry out subsection (a) and the results of those actions.

SEC. 203. COMBINED HEAT AND POWER AND WASTE HEAT RECOVERY.

(a) GOAL.—It is the goal of the United States to, not later than December 31, 2020, achieve a doubling of the production of electricity from combined heat and

power and waste heat recovery in the United States and thereby improve the energy efficiency of the industrial sector.

(b) STRATEGIC PLAN.—

(1) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, and biennially thereafter, the Secretary of Energy (referred to in this section as the "Secretary"), in cooperation with the heads of other appropriate Federal agencies, shall transmit to the Congress and make available to the public a strategic plan, or update thereof, to achieve the national goal established under subsection (a).

(2) PUBLIC INPUT AND COMMENT.—The Secretary shall develop the strategic plan in a manner that provides appropriate opportunities for public input and comment.

(3) PLAN CONTENTS.—The strategic plan shall—

(A) establish policy priorities and identify measures to achieve the national goal established under subsection (a);

(B) include estimates for achievable increases in combined heat and power and waste

heat recovery production and for energy savings that will be achieved by those increases; and

(C) include data collection and compilation methodologies used to establish baselines and document energy savings data.

(4) PLAN UPDATES.—

(A) INCLUSION IN NATIONAL ENERGY POLICY PLAN.—The Secretary shall include each updated strategic plan in the National Energy Policy Plan required by section 801 of the Department of Energy Organization Act (42 U.S.C. 7321).

(B) CONTENTS.—In updating the strategic plan, the Secretary shall—

(i) report on progress made toward implementing combined heat and power and waste heat recovery policies to achieve the national goal established under subsection (a); and

(ii) verify, to the maximum extent practicable, energy savings resulting from those policies.